

MULTILINGUALISM IN CYBERSPACE

Proceedings of the Ugra Global Expert Meeting

Government of the Khanty-Mansi Autonomous Okrug – Ugra
Commission of the Russian Federation for UNESCO
Russian Committee of the UNESCO Information for All Programme
Interregional Library Cooperation Centre
MAAYA World Network for Linguistic Diversity

Multilingualism in Cyberspace

Proceedings of the Ugra Global Expert Meeting
(Khanty-Mansiysk, Russian Federation, 4–9 July, 2015)

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The book includes papers by the participants of the Ugra Global Expert Meeting on Multilingualism in Cyberspace (Khanty-Mansiysk, Russian Federation, 4–9 July, 2015), aimed to discuss policies in the field of language preservation, measures to be taken at both national and international level to develop linguistic and cultural diversity of the world and promote multilingualism in cyberspace.

The authors are responsible for the choice and presentation of facts and for the opinions expressed, which are not necessarily those of the compilers.

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PREFACE

On 4-9 July 2015 Khanty-Mansiysk welcomed the participants of the Ugra Global Expert Meeting on Multilingualism in Cyberspace, the major international event in this field in 2015, included in the calendar of UNESCO's most important events. The meeting held within the Seventh International IT Forum was a great success.

Today more and more people around the world begin to realize that linguistic diversity should be preserved, maintained and developed. We witness a growing interest in this topic, which is increasingly discussed at a high political level.

Throughout its history mankind saw some languages emerging and others dying. But the process of language extinction has recently become rampant. A considerable number of languages are endangered. According to estimates, by the end of the 21st century about 90% of languages may disappear, replaced by more powerful languages.

Research shows that ICT intensive use accelerates language vanishing. But at the same time new ICTs can and should be used to slow down the extinction of minority languages and even revitalize them.

What can be done to confront the negative trends and to enhance the positive ones? What is the true scale of linguistic problems? What are these problems? How should they be ranked? What are their causes and potential consequences? It is clear that serious measures should be taken at both national and international level to preserve linguistic and cultural diversity.

The Ugra Global Expert Meeting on Multilingualism in Cyberspace aimed at collective search for answers to the questions of languages and cultures' development.

This high-level international event was organized by the Russian UNESCO IFAP Committee and the Interregional Library Cooperation Centre with the financial support of the Government of the Khanty-Mansi Autonomous Okrug – Ugra. It is Ugra's Government second major initiative within the framework of cooperation between Russia and UNESCO in the field of cultural heritage preservation, language preservation and linguistic diversity development in cyberspace.

The meeting was organized with the support of the Commission of the Russian Federation for UNESCO in cooperation with UNESCO and the MAAVA World Network for Linguistic Diversity.

The meeting's key objectives were:

- developing and advancing UNESCO and Russian policies in the field of language preservation and linguistic and cultural diversity development in cyberspace;
- developing and promoting the outcomes of the Third International Conference “Linguistic and Cultural Diversity in Cyberspace” (Yakutsk, 2014) and the International Expert Meeting on Improving Access to Multilingual Cyberspace (Paris, UNESCO Headquarters, 2014).

The Khanty-Mansiysk expert meeting on language issues has become a central event of the Seventh International IT-Forum and also Russia's new contribution to the implementation of the “Information for All” Programme – UNESCO's major intergovernmental programme in the field of communication and information and the only programme in the world to imply a comprehensive and holistic approach to humanitarian issues crucial for the future of the information society – information accessibility, information preservation, media and information literacy, information ethics, information for development, preservation of languages and their development in cyberspace.

The Khanty-Mansiysk meeting gathered leading national and international researchers working in the spheres of ethnolinguistics, ethnopolitology, sociolinguistics and culture, as well as representatives of key international governmental and non-governmental organizations, managers and specialists of institutions and authorities in the field of education, science, culture, information and communication, staff of permanent delegations to UNESCO from Azerbaijan, Brazil, Canada, Central African Republic, China, Colombia, Georgia, Grenada, the Dominican Republic, Ecuador, France, India, Israel, Italy, Japan, Kazakhstan, Kyrgyzstan, Latvia, Mali, Moldova, Mozambique, the Netherlands, Peru, Poland, Russia, Spain, Switzerland, Thailand, and the USA.

The meeting's programme included 6 plenary sessions and 5 thematic sections:

- Section 1. Languages and Education.
- Section 2. Research and Innovation.
- Section 3. Organizations and Projects.
- Section 4. National Experience and Vision.
- Section 5. Multilingualism for Well-Being.

A total of 42 reports were presented.

Impressive cultural and introductory programme of the International Expert Meeting included visiting the Ob-Ugric Institute of Applied Research and Development, the Ugra Research Institute of Information Technologies, the Torum Maa Outdoor Ethnographic Museum, the Museum of Nature and Man, the Ugra Governor's Cup oblas rowing competition, a boat trip to the confluence of the Ob and Irtysh rivers, a performance by the "Sun" Theatre of Ob-Ugric peoples.

All participants to the meeting noted the high organizational level of this content rich event and expressed gratitude to its organizers – the Government of the Khanty-Mansi Autonomous Okrug – Ugra, the Russian UNESCO IFAP Committee, the Interregional Library Cooperation Centre, the Commission of the Russian Federation for UNESCO, UNESCO Secretariat and the MAAVA World Network for Linguistic Diversity.

Evgeny KUZMIN
Co-Chair, Conference Organizing Committee;
Vice-Chair, Intergovernmental Council,
UNESCO Information for All Programme (IFAP);
Chair, Russian National IFAP Committee;
Chair, IFAP Working Group for Multilingualism in Cyberspace;
President, Interregional Library Cooperation Centre;
Member, Commission of the Russian Federation for UNESCO

WELCOME GREETINGS TO THE ORGANIZERS AND PARTICIPANTS OF THE GLOBAL EXPERT MEETING ON MULTILINGUALISM IN CYBERSPACE

**Greeting by Natalia Komarova,
Acting Governor of Khanty-Mansi
Autonomous Okrug – Ugra**

Ladies and gentlemen,

Since times immemorial, dialogue has always been a tool of bridge-building between nations, cultures and individuals. Such dialogues are impossible unless we make steady efforts to preserve multilingualism and promote all languages of the world. We, residents of Ugra, or the Khanty-Mansi Autonomous Okrug, realize this point perfectly well, with the conglomeration of languages and traditions on which our identity rests. Symbolically, our area's name combines the names of two major Northern ethnic entities.

Ugra is one of the universally recognized world centres of the preservation, development and promotion of profoundly original cultures, arts and customs of the indigenous Northern population. Every tribe's mother tongue is its cultural code, the basis of its moral values. This code can be digitized now. That's what makes multilingualism in cyberspace so important.

Ugra is implementing a programme to put an end to digital inequality by providing access to the Internet to remote and hard-of-access villages. The area is among Russia's regional leaders for the use of information technology and the development of information society. We host an annual international IT forum to pool in efforts and exchange pioneer experience in the use of IT for improving the population's life. Certainly, the opportunity of communication in one's native language is one of the inalienable aspects of life's quality.

It is essential to overcome linguistic inequality alongside digital one. That is why we attach tremendous importance to UNESCO efforts to extend the Atlas of endangered languages to the point when it turns into an atlas of all languages in the world. No less crucial is the study of open and inclusive resolutions toward an efficient system of linguistic monitoring through the IT.

I am sure that the upcoming conference in Khanty-Mansiysk will help us to make progress on all these points and come at new forms of the dialogue which brings all nations of the world closer together.

**Address by Gennady Gatilov,
Deputy Minister of Foreign Affairs of the Russian Federation**

I am glad to greet the organizers and participants of the International IT Forum and the UNESCO International Expert Meeting.

More than 180 ethnic entities speaking a hundred-plus languages live in the Russian Federation, with its centuries-long experience of peaceful interethnic and interreligious coexistence and collaboration. My country attaches tremendous importance to the building of the just information society and the preservation and development of linguistic and cultural diversity in cyberspace now that a new multi-centre world order is emerging and the role of civilizational identity is enhanced.

The Russian Federation has hosted a number of international conferences and academic meetings on linguistic diversity within several recent years on the UNESCO Information for All programme.

Their final documents are of great value as they propose the ways to implement the recommendations of the World Summit on the Information Society, and advance initiatives for universal access to information and knowledge – particularly, the idea of a world summit on linguistic diversity in cyberspace under the auspices of UNESCO and the MAAYA global network.

I am confident that today's IT Forum and UNESCO International Expert Meeting will contribute honourably to the development and improvement of UNESCO's and the Russian Federation's policy to preserve linguistic and cultural diversity, and will facilitate the participants' first-hand acquaintance with the fabulously interesting Khanty and Mansi land.

I express heartfelt gratitude to the Government of the Khanty-Mansi Autonomous Okrug – Ugra and to all of you for an inestimable contribution to the cause of preserving linguistic and cultural diversity in our country and worldwide.

I wish you every success and fruitful work.

Welcome Greeting by Getachew Engida, Deputy Director-General of UNESCO

Nowadays, information and knowledge are key determinants of wealth creation, social transformation and human development. Language is the primary vehicle for communicating this information and knowledge, thus the opportunity to use one's languages on the Internet will determine the extent to which one can participate in emerging knowledge societies. Furthermore, linguistic diversity is an integral part of cultural diversity, enabling people from a variety of backgrounds to express their emotions, intentions, values and understanding, providing a tool for achieving mutual understanding and respect. Ideally, cyberspace should reflect and contribute to the world linguistic diversity.

At present, over a decade since the adoption by the UNESCO General Conference of its Recommendation concerning the Promotion and Use of Multilingualism and Universal Access to Cyberspace (2003), technological innovations have led to an increase in the volume, complexity and fluidity of people's interactions within cyberspace. Despite such advances, it is still the case that many of the world's marginalized populations in particular have limited opportunities to engage in the global forum, due to economic, technical and linguistic barriers.

UNESCO considers that technological and scientific progress, cultural diversity and multilingualism in cyberspace have a key role to play in fostering pluralistic, equitable, open and inclusive knowledge societies. To this end, it promotes capacity-building at multiple levels, encouraging its Member States to develop encompassing language-related policies and allocate resources towards localized technological solutions that enable access to these knowledge societies.

I am confident that the Global Expert Meeting on Multilingualism in Cyberspace to be held in the Khanty-Mansi Autonomous Okrug – Ugra, Russian Federation from 4 to 9 July 2015, will be an important milestone in our work to promote linguistic and cultural diversity, and improve access to multilingual information and knowledge around the world.

**Welcome Greeting by Chafica Haddad,
Chair of the Intergovernmental Council of the UNESCO
Information for All Programme**

Universal access to information and knowledge is fundamental to the development of inclusive Knowledge Societies. In the past, information and knowledge have too often been managed by a limited influential number of social, academic or economic groups and stakeholders. However, we believe everyone should have access to information and obtain competencies required to turn knowledge into practical value to their lives. With language being the foremost way communities engage in building knowledge societies, it is therefore vital that multilingualism is actively promoted in cyberspace.

As a Chair of the UNESCO Intergovernmental Information for All Programme (IFAP), and on behalf of the 26 IFAP Council members, I would like to encourage all stakeholders, and namely the participants in the Global expert meeting in Khanty-Mansiysk, to increase efforts for raising awareness about the importance of exploitation of technological and scientific progress for linguistic diversity and multilingualism, and most importantly to identify practical ways of making outcomes and impact of the progress tangible and visible at community, national, regional and global levels. The cross-cutting nature of evolving Knowledge Societies allows our goal of a multilingual cyberspace to be pursued through a wide variety of activities, including gathering working groups of experts, assisting national governments, developing national policy frameworks, advocating open approaches to ICT and information development, and promoting accessibility, preservation and literate use of information and technological resources through multi-stakeholder networks, community members and in general language users.

Furthermore, international exchanges like this facilitate the development of joint approaches, tools and resources, and mobilization of resources for capacity building by raising awareness among policy-makers, academia, language users and other key stakeholders. I am convinced that the Global Expert Meeting on Multilingualism in Cyberspace, taking place in Khanty-Mansi Autonomous Okrug – Ugra, Russian Federation, between 4 and 9 July 2015, will expand positively on our work fostering diverse, equitable, open and inclusive knowledge societies.

Finally, I should like to express my sincere appreciation to the Government of Khanty-Mansi Autonomous Okrug – Ugra (Russian Federation), the Russian National Committee of the UNESCO Information for All Programme, the Interregional Library Cooperation Centre (Russian Federation), the MAAVA

World Network for Linguistic Diversity and UNESCO for making this event possible and for their continued efforts for safeguarding the linguistic heritage of humanity.

I wish all success in the organization and holding of this major Global Expert Meeting.

**Greeting by Larisa Yefremova,
Head of the Federal Agency for the Commonwealth of
Independent States, Compatriots
Living Abroad and International
Humanitarian Cooperation (Rossotrudnichestvo)**

Ladies and gentlemen,

On behalf of the Federal Agency for CIS, Compatriots Living Abroad and International Humanitarian Cooperation (Rossotrudnichestvo), I greet the organizers and participants of the International Expert Meeting on the preservation and development of languages in cyberspace, which has gathered under the auspices of UNESCO in hospitable Ugra.

Expert discussion on the worldwide preservation of linguistic diversity is extremely topical today as minority languages are threatened with extinction and the languages of the leading world cultures are under the impact of globalization.

There is profound symbolism in Russia hosting this meeting: my country has always cherished its cultural heritage, and is doing much to preserve and develop the languages of its many ethnic entities.

Rossotrudnichestvo, whose duty it is to promote international humanitarian contacts, is working to enhance the popularity of the Russian language abroad. Together with its partners, the agency holds research and practical conferences, seminars, meet-the-artist events, etc. It establishes Russian language classes and study centres at diplomatic missions, shares knowhow with foreign teachers of the Russian language, and sponsors national and international Russian language contests.

I hope this meeting will be the site of a concerned dialogue and interesting opinion exchanges, and will bring effective decisions for the preservation and development of linguistic diversity in cyberspace.

I wish you every success, fruitful work and new achievements.

PLENARY SESSIONS

Evgeny KUZMIN

*Vice-Chair, Intergovernmental Council,
UNESCO Information for All Programme (IFAP);
Chair, Russian National IFAP Committee;
Chair, IFAP Working Group for Multilingualism in Cyberspace;
President, Interregional Library Cooperation Centre
(Moscow, Russian Federation)*

The Preservation and Promotion of Multilingualism in Reality and Cyberspace: The World on the Road to the Realization of the Scope and Structure of a Global Problem – Following Discussions at International Meetings

Ladies and gentlemen,

Friends,

Today's International Expert Meeting is a fifth language-related international event organized by the Russian Committee of the Information for All Programme and the Interregional Library Cooperation Centre with partners and sponsors.

As an organizer, I dare offer you a glimpse of the history of these events.

Three of them gathered in Russia – in 2008, 2011 and 2014, and the fourth at the UNESCO Headquarters in Paris in 2014.

Yakutsk was the venue of all the three events in Russia. It is the capital of the Republic of Sakha (Yakutia), one of the 85 constituent entities of the Russian Federation. Khanty-Mansiysk, where we are now, is the capital of another entity, the Khanty-Mansi Autonomous Area.

All the three events in Yakutsk were known as international conferences on Linguistic and Cultural Diversity in Cyberspace.

The conferences in Yakutia, the preparation of their proceedings in Russian and English, and the translation and publication of Net.Lang in Russian were funded by the Government of the Republic of Sakha (Yakutia), the Yakutsk-based Northeastern Federal University, the Ministry of Culture of the Russian Federation, and the Federal Agency for Press and Mass Communications.

We received another generous sponsor and welcome partner in the support of linguistic and cultural diversity in cyberspace and reality last year. That is the Government of the Khanty-Mansi Autonomous Area.

Last spring, we and our Khanty-Mansi colleagues proposed to our UNESCO friends Boyan Radoykov and Irmgarda Kasinskaite to arrange a large-scale language-related international event at the UNESCO Headquarters in Paris. It gathered on October 29–30, 2014, under the name of the International Expert Meeting on Improving Access to Multilingual Cyberspace.

With this initiative, the Khanty-Mansi Autonomous Area contributed ambitiously to the work of IFAP and entire Russian activity on that intergovernmental programme, which is one of the two major UNESCO programmes on information and communication.

Colleagues, allow me to express heartfelt gratitude to the entire Government of the Khanty-Mansi Autonomous Area, its Governor Natalia Komarova, her first deputy Gennady Bukhtin, who is with us here, the Department of International and External Contacts of the Government of the Khanty-Mansi Autonomous Area, personally Ms. Irina Beznosova, the Department Deputy Director, and her staff. I thank them on your behalf and that of the Intergovernmental Council of the UNESCO Information for All Programme and the UNESCO ad hoc Working Group on Multilingualism in Cyberspace, which I have the honour to lead.

We also thank you from the bottom of our hearts for last year's UNESCO Expert Meeting and the opportunity to revisit Khanty-Mansiysk now. The meeting in Paris was extremely fruitful and won vast acclaim in the expert and diplomatic circles. I am convinced that the present meeting will be similar.

To distinguish our Yakutsk events from those sponsored by the Government of the Khanty-Mansi Autonomous Area, we changed their format slightly and call them international expert meetings – not conferences, as in Yakutsk.

Ever more conferences on languages are convened in the world today. Ever more people come to realize the importance of languages. The theme of languages has risen to an elevated political level. The world grows aware to an increasing extent that globalization is promptly wiping off cultural diversity, this eternal vehicle of development based on linguistic diversity. Ever more people see that languages are becoming tools of political and economic domination.

What can and should we do to oppose the negative trends and enhance positive ones in the sphere of languages? The world is eager to know the scope of problems in that field, their essence, order of priority, causes and effects.

The world looks up at us for profound analyses, well-pondered action, and suggestions how to implement our plans.

The materials of our conferences and of our partner, the MAAYA World Network for Linguistic Diversity, provide a good basis for such analyses.

That is why I have entitled my address to our meeting today, “The Preservation and Promotion of Multilingualism in Reality and Cyberspace: The World on the Road to the Realization of the Scope and Structure of a Global Problem – Following Discussions at International Meetings”.

When I was thinking it over, I saw that generalization on what we discussed at our previous meetings was the best I could and should do.

Let us recollect what we discussed there, proceeding mainly from the names of the events and their sections.

The first conference was convened in Yakutsk in 2008, representing 15 countries. It was our contribution to the International Year of Languages. We talked at the conference about how globalization was levelling off cultural diversity and bringing closer the death of minority languages, some of them spoken in Russia. We quoted forecasts that 90% out of the 7,000-plus presently existing languages might die out by the end of the 21st century. We spoke about the dual impact of the advent of ICT on linguistic diversity: on the one hand, languages are dying apace with the sweeping progress of ICT, as mere 7% of them are represented online. On the other hand, however, ICT is a new tool of preservation and even revival of endangered languages.

The conference had five sections:

1. Political, ethical and legal aspects of multilingualism in cyberspace.
2. The role of libraries in the preservation of linguistic and cultural diversity.
3. Languages and education.
4. The preservation and development of cultural diversity.
5. Internet and other media.

The first conference focused mainly on minority and endangered languages. It was summarized in a final document, the Lena Resolution “On Linguistic and Cultural Diversity in Cyberspace”, which was a first-ever document to provide a detailed description of necessary international measures.

The document received global acclaim, principally in UNESCO and IFLA.

The conference resulted in the establishment, with our help, of the Centre to Advance Multilingualism in Cyberspace at the Northeastern Federal University in Yakutsk.

The second conference in Yakutsk, in 2011, represented 30 countries and had the following sections:

1. The instruments of preservation and development of languages in cyberspace.
2. Development institutes of linguistic and cultural diversity.
3. The formation of friendly environment for the support of linguistic and cultural diversity.

The conference included a meeting on the preparation of the World Summit on Multilingualism under the UN auspices. It is among the favourite ideas of our friend MAAYA President Adam Samassekou, which we approve enthusiastically.

The second conference focused not only on minority languages but also on marginal and marginalizing major ones – the major African and Asian languages spoken by millions, which, however, have no official status in their own countries and are represented in education negligibly or not at all. Second, these are European languages in which sublime literary, academic and other cultural achievements were made but which are being ousted by English. These are the Portuguese, Spanish, Italian, German, French and Russian languages.

The second conference unanimously adopted the Yakutsk Call for Action to prepare the World Summit on Multilingualism.

The two first Yakutsk conferences made UNESCO reappraise the political, research and cultural significance of the relevant theme on a thoroughly new level. On Russia's initiative, it became the sixth, supplementary priority of the comprehensive intergovernmental UNESCO Information for All Programme. Later on, a Working Group on Multilingualism in Cyberspace was established under the programme, also on Russian initiative. It is headed by a Russian – that's me.

The third conference in Yakutsk, in 2014, represented 50 countries. A majority of the participants were officially delegated by their governments. The conference had the following sections:

1. The use of ICT to preserve linguistic and cultural diversity.
2. Linguistic and cultural diversity in cyberspace: the socio-cultural aspect.
3. The preservation of linguistic and cultural diversity: national vision and national experience.

-
4. Education for the preservation of linguistic and cultural diversity in cyberspace.

The third conference included in its agenda for the first time such topical issues as:

- Internet as an environment preserving cultural identity.
- The establishment of bilingual and multilingual electronic libraries and the formation of the local content in minority languages.
- Education and the preservation of linguistic diversity: role, functions and responsibilities.
- The problems and opportunities of internationalizing languages.
- The development of institutions and tools of supporting linguistic diversity in cyberspace.
- Marginalization of languages: A sentence or a challenge?

The third conference was the first to refer to Russian as a language of international communication and to discuss migrants' languages – a theme introduced by Spanish speaker Vicent Climent Ferrando.

In the end, we passed a detailed final document of an unprecedented length, entitled “The Yakutsk Declaration on Linguistic and Cultural Diversity in Cyberspace”. The most comprehensive presentation of the problems of multilingualism in the contemporary world, it comprises an ambitious list of practical action to be taken at many levels – international, national, local, institutional, political, theoretical and practical. It is an action plan which the 3rd Yakutsk conference proposes to the world. A participant of our expert meeting in Paris described it as a concise Bible of multilingualism.

All these years, international research conferences organized by MAAYA were held parallel to the Yakutsk conferences:

- The Bamako International Forum on Multilingualism (Bamako, Mali, 2009),
- The First International Symposium on Multilingualism in Cyberspace (SIMC I – Barcelona, Spain 2009),
- The Second International Symposium on Multilingualism in Cyberspace (SIMC II – Brasilia, Brazil, 2011)
- The Third International Symposium on Multilingualism in Cyberspace (SIMC III – Paris, France, 2012).

The Russian IFAP Committee took part in the preparation of the 3rd research symposium in Paris, and its members made plenary reports.

Work on the book *Net.Lang: Towards the Multilingual Cyberspace* went on all that time. It appeared from print in France (English and French versions) in 2012 with UNESCO support. We took part in its preparation. The book was translated and put out in Russian in 2014.

As we discussed the problems of multilingualism, we were glad to learn from the SIL International (Summer Institute of Linguistics) personnel about its daring and successful achievements.

As the result of all that, the understanding of the problems of multilingualism achieved a new level as experts' horizontal contacts with each other and with political leaders are established and get stronger. These contacts also involve UNESCO, IFLA, ITU and other international organizations.

As I have said, our latest meeting, the International Expert Meeting on Improving Access to Multilingual Cyberspace, was in Paris last October.

Its agenda revolved round two fundamental issues:

- The implementation of the Yakutsk Declaration.
- The transformation of the UNESCO Atlas of the World's Languages in Danger into an Atlas of the World's Languages.

As it always happens, our discussions soon crossed the limits of the agenda. The theme of multilingualism took a thoroughly new turn with the address of Nicholas Ostler of the UK about the imperialist languages – English, Spanish, French, Portuguese and Russian – whose spread played down the role of other languages. I regarded his address as expressing the desire of English speakers to launch a serious discussion on the fate of the world's major languages, their role and place in the past, present and future – a desire I greatly appreciate.

A profound final document was adopted after the meeting in Paris.

All the four final documents have been collected and published under one cover in a brochure which all participants of this meeting have in their portfolios. Importantly, our work at them was permeated with a team spirit. We were efficient and enthusiastic about the job.

So we have approached today's forum. As you know from its programme, it has plenary meetings and five sections:

1. National vision and experience.
2. Organizations and projects.

-
3. Research and innovation.
 4. Languages in education.
 5. Multilingualism and well-being.

The latter, thoroughly new theme is an echo of “Well-being in Digital Media”, an international conference that gathered in Israel in February 2015.

I mention the sections and final documents of all our major events to show that even the names of these sections demonstrate that discussions of the problems of multilingualism in cyberspace reveal steady thematic blocks and every new discussion reveals ever new aspects of these problems.

We are making evident progress to the most detailed possible analysis of the situation in the linguistic sphere, its most explicit structural presentation, and a generalized description of the overall situation and related problems with:

1. Endangered minor languages;
2. Minor but viable languages used in their countries as official or by particular ethnic communities;
3. Major languages in the same situation; and
4. Languages spoken by the majority in a large country but represented only negligibly in its education and official matters.

These problems need a detailed analysis and generalized description in their many aspects – educational, political, academic, linguistic, socio-cultural, philosophical and technological – for particular parts of the world and separately for developed and developing countries.

As all our forums show, it is impossible to discuss the development of multilingualism in cyberspace without reference to the preservation of multilingualism in reality. Only such languages can develop in cyberspace as spoken in reality and taught at least at primary school. It is essential to work out international recommendations on the necessity of representing indigenous languages in education and on the balance between tuition languages and languages under study. The latter aspect is especially topical in multilingual countries.

I think we have been especially successful in the realization of the problems of multilingualism in cyberspace with minority languages, especially endangered ones.

It is evident now that we need to preserve and develop such languages and give them the opportunity of full-blooded life: tools, institutions, relevant policy,

friendly environment, and the universally shared desire to preserve these languages. All this is what we can and must do if we want it and can afford it.

At the end of my address, I would like to turn to an idea advanced at all our major forums. I mean the necessity of a world summit on multilingualism at the level of heads of state. The drawing of a world language report should be among its preparatory stages.

When these ideas came under discussion at the UNESCO General Conference in autumn 2011, certain nations hushed them down under a variety of pretexts. The idea of the world summit on multilingualism has influential opponents alongside supporters. Some nations regard the promotion of linguistic diversity in reality and cyberspace as a sublime and righteous idea while others think it's utopian, and still others try to prove that it's pernicious as it stands on the way to their political, cultural and economic goals.

If we really want to convene a world summit on multilingualism, we must advertise its idea as broadly as possible, and use every possible venue for its promotion. It takes a starry-eyed idealist to think that all countries' diplomats and political leaders will welcome it with enthusiasm as soon as it is advanced by several professional forums. Yet support by political and diplomatic circles is necessary because it is up to the United Nations to decide whether to convene such a summit. So it is essential not to doom the idea to oblivion but discuss it by many nations at various forums and levels. We have too many problems to address them without a top-level forum.

We, too, should make painstaking preparations for the summit – particularly by drawing a world language report by its start.

What should be the content and structure of this report? What problems should it tackle, and how should these problems be prioritized?

I think it's up to us to determine their order of priority and draw a necessary roadmap. None other than we should present the actual scope of the problems of language use and its shrinkage, and demonstrate the threats to languages. I am convinced that the report should concern not only minor languages but also major ones, including those used internationally– particularly the UN official languages, migrants' languages, tuition languages, and languages in the Internet and other media.

It's up to us to decide and settle it so as to prevent or at least minimize political speculations. We should present our vision and decisions to UNESCO, while it should shoulder the responsibility for the preparation of a world report on languages and multilingualism, and advance these issues into the foreground of global political discussions.

Adama SAMASSEKOU

*President, MAAYA World Network for Linguistic Diversity;
President, International Council for Philosophy and Human Sciences (CIPSH)
(Bamako, Mali)*

It Is Time to Walk the Talk: From Conferences to a World Summit on Multilingualism

Dear Ministers,
Madam Governor of the Autonomous Region of Ugra,
Honourable federal and local authorities,
The President of IFAP,
Mr Vice-President of IFAP and Dear friend Zhenia,
Distinguished Guests, any observed protocol,
Dear militants for Linguistic Diversity,
Ladies and Gentlemen,
Dear Participants,

Let me first, on behalf of the MAAYA Network – the World Network for Linguistic Diversity, which has the honour of being one of the partners in the organization of this important event, thank and warmly congratulate our friend, Evgeny Kuzmin, for his unwavering support in our cooperation to strengthen multilingualism in the world and for all his continued initiatives towards that goal. I include in these congratulations and thanks his team, who have remained committed to the cause, ever since Yakutsk 1 in 2008! I would then like to thank the Russian federal authorities and local Ugra Government for the traditionally warm welcome and congratulate them for maintaining the issue of linguistic diversity and multilingualism on the Agenda. Finally, thank you to UNESCO and IFAP for their dedication to this vital topic for the future of humanity!

Dear friends, here we are again meeting to discuss the same issue, yet again, you might say, wondering what could be the added value this time. What purpose will the statements, appeals and commitments serve, after at least ten years of the issue of linguistic diversity and multilingualism being on the agenda of so many conferences, seminars and workshops throughout the world?

Indeed, after the UNESCO “Recommendations” in 2003, the conclusions of the WSIS in Geneva and Tunis, the creation of the MAAYA Network, the consecration by the United Nations of 2008 as the International Year of Languages, Yakutsk 1, the Bamako International Forum on Multilingualism

(BIFM), Yakutsk 2 and 3, the UNESCO Expert Meeting on Multilingualism in October... to name but these events, it has to be recognized that the essential points have been made and made clearly many a time.

It is time now, high time to act, to transform words into deeds.

It is this prospect of taking immediate action that we suggest we explore together here in Khanty-Mansiysk. But first, it is worth recalling briefly what we all know, but the reminder should help emphasize how urgent it is to act.

Globalization, as we all know, is now a well-established reality in the lives of the nations and peoples of our planet. However, the danger it represents today is increasingly clear. Being based on the implacable logic of the marketplace, it causes an excessive standardization of lifestyles and cultures, and the progressive domination of a simplified lingua franca, Global English, over all the other languages of the world. Global English, sometimes derisively called Globish, does admittedly enable a Korean and an Argentinian to ask for directions when they meet in a Paris airport, but it does not in any way serve to build a cultural identity, be it on the level of an individual or a nation.

Need I also remind you that language, the foundation of cultural identity – individual and collective – is the main instrument of knowledge construction? Language is the receptacle and the vector, par excellence, of the worldview of human societies. So, in the face of this process of standardization how can we preserve Humankind from the drama that awaits – the expected loss of all the knowledge housed in so many of the world’s languages? How can we outline a course of action that will ensure the world’s intangible heritage is secured and can flourish?

For development can only be attained when languages, cultures, arts, beliefs, ways of thinking are respected, all the unique characteristics that together create harmony and make up the beauty of a diverse, multifaceted world, different but united. “The beauty of a carpet is the diversity of its colours,” said Amadou Hampâté Bâ, the great Malian and African writer and philosopher.

Linguistic diversity is to human society what biodiversity is to nature. It is a factor of mutual enrichment, rapprochement and intercultural dialogue. Multilingualism is more than just the presence of several languages side by side. Multilingualism is not manifested either by an individual or collective loss or gain, but rather it takes the form of a qualitatively new transformational situation. To that extent, monolingual individuals cannot participate and communicate at all levels of society. Multilingualism is the norm, not the exception. It is an asset, not a problem or a burden. It is the very foundation of the uniqueness of human communication. When managed wisely in a

democratic structure, it contributes to the effective and fair participation of citizens in the public domain both locally, nationally, regionally and globally. It contributes to peace and social cohesion, and to sustainable development. For this reason, it is important to ensure the presence and use of all languages in cyberspace so as to create inclusive knowledge societies that respect linguistic and cultural diversity, where information and knowledge are accessible, free and shared by all.

Seen in this light, it becomes clear that globalization can be a tremendous asset if, together, we strive to preserve and foster cultural and linguistic diversity and thus strengthen multilingualism, in the conviction that our languages and our cultures are a single, shared treasure of humanity.

It is on this treasure, this rich heritage that we can build to share knowledge and know-how, and that we can exchange inclusively with all the peoples of the world thanks in particular to a multilingual cyberspace. This is the message that Africa, through our voice, broadcast to the world during the second phase of the World Summit on the Information Society held in Tunis in November 2005, calling for the creation of a worldwide network for the promotion of linguistic diversity.

MAAYA was set up at the initiative of the African Academy of Languages (ACALAN) as a specialized Agency of the African Union I have the honour of being the President-Founder. The network has its headquarters in Bamako, Mali. MAAYA is the World Network for Linguistic Diversity. It was officially launched at UNESCO headquarters in Paris on 21 February 2006, during the celebration of the International Mother Language Day chaired by the Director General of UNESCO, surrounded by all the Assistant Directors generals, several Permanent Delegates to UNESCO and several other dignitaries. Its purpose is to foster and promote linguistic diversity as the foundation of the uniqueness of human communication: hence the name MAAYA, which in the Mandinka language, a major cross-border vehicular language of West Africa, means “respect for self and the other, always being open to the other” and which I translate as “humanitude”. As a multilateral network, MAAYA is particularly eager to support and encourage all initiatives that promote, facilitate and guarantee the flourishing of linguistic diversity in the world, as well as of course the safeguarding and revitalization of endangered and less widely used languages. Our Executive Secretary, my friend Daniel Pimenta, will come back to MAAYA at greater length in his presentation of its ten years of existence.

Since its inception, MAAYA has seen its role as a channel for promoting linguistic diversity and multilingualism. As such, one of its main remits is to help relevant international institutions work effectively. This is why it has a

strategic partnership with, among others, UNESCO and the Francophonie. It is also why it focuses on achieving its vision through concrete projects. Thus, it was the instigator, together with the Austrian Commission for UNESCO and ACALAN, of the 2008 International Year of Languages. And today it is behind the idea of a World Summit on Multilingualism (SOMOM).

The idea of the SOMOM summit has been widely shared and supported by many actors, both individual and institutional. The Bamako International Forum on Multilingualism (BIFM) in January 2009, organized by ACALAN and MAAYA, in partnership with several African governments, including Mali, the Austrian Government and several international institutions, including UNESCO and the OIF, was the first step towards SOMOM.

The second Yakutsk International Conference on Cultural and Linguistic Diversity in Cyberspace in July 2011 marked a milestone on the road to making the summit happen. It was an opportunity not only to launch an appeal for action to all key stakeholders, but above all to adopt a roadmap leading to the organization of SOMOM in 2017. The roadmap included the following 6 steps:

- 2012: Experts meetings and consultations in various regions of the world;
- 2013: Ministerial Conference on Multilingualism;
- 2013: Proposing a draft resolution on the World Summit on Multilingualism to the UNESCO General Conference. Possible establishment of an international commission to prepare a Report on multilingualism;
- 2014: Possible adoption of a draft resolution on the World Summit on Multilingualism by the UN General Assembly based on the Report;
- 2015–2017: Thematic meetings and regional conferences to prepare for the Summit;
- 2017: World Summit on Multilingualism.

We felt it essential if we were to concretely engage in the SOMOM preparation process, to seize the opportunity of the UNESCO General Conference to confirm the roadmap defined at Yakutsk 2. Thus, during the 36th Session of the General Conference of the United Nations Educational, Scientific and Cultural Organization (UNESCO), held from 25 October to 10 November 2011, a draft Resolution on the World Summit on Multilingualism (SOMOM) was prepared and presented by Mali and Benin, with the support of several other countries.

Unfortunately, for reasons that remain unclear, the draft resolution that had been prepared by the two countries was not adopted by the General Conference, which chose instead to adopt a resolution to consider the implementation of activities to monitor the results of the International Year of Languages, with extra-budgetary funding!

Despite this, the idea of the Summit continued to interest countries, international organizations, networks... Better still, it was recalled in the declaration of Yakutsk 3 and in the conclusions of the UNESCO Expert Meeting on Multilingualism in October 2014.

So what can we do here in Khanty-Mansiysk, at this fourth meeting in Russia on the same theme since Yakutsk 1 in 2008?

1. We must first of all, here and now, ensure that all participants in the international meeting of experts confirm their support for the idea of SOMOM and renew their commitment to contribute to its achievement.
2. Then, the meeting of Khanty-Mansiysk should update the Yakutsk Roadmap 2, drawing lessons from experience and adapting it to the new context.
3. This adaptation should include both the likely date of the summit, more realistically 2018, and the preparatory process which should be revised completely.
4. It is essential to involve international organizations, other than UNESCO, which are concerned with the issue of cultural and linguistic diversity, such as the OIF, and also a large group of like-minded countries. They should be identified on every continent and mobilized around Mali and the Russian Federation, which are the countries hosting the major steps of the awareness campaign around the idea of SOMOM.
5. A Steering Committee should be set up immediately after our meeting with the key mission of driving the revival of the SOMOM preparation process. This includes updating the roadmap, remobilizing UNESCO, in particular through its Executive Council, getting support from other international organizations, forming a group of like-minded countries, working on arrangements for the International Commission on the preparation of the Report on Multilingualism, etc.

Distinguished Guests,

Dear militants for Linguistic Diversity,

Ladies and Gentlemen,

Dear Participants,

Let me now conclude my remarks. Given what I have just shared with you, you will certainly have understood the importance and value of SOMOM. You will have realized that the holding of such a summit would help make the highest authorities of the international community realize the need to take every measure appropriate to preserve and promote on our planet linguistic and cultural diversity, pluralism of our societies, sustainable development and universal multilingualism which guarantees peace and social cohesion.

The time has come to move from advocacy to concrete actions.

Yes, it is time indeed to walk the talk, so let us do it. Our credibility is at stake!

Thank you for your attention.

Lyubov KOVESHNIKOVA

*Head of Education and Youth Policies Department
of the Khanty-Mansi Autonomous Okrug – Ugra
(Khanty-Mansiysk, Russian Federation)*

Northern Indigenous Minority Children and Youth as a Particular Care of the Government of the Khanty-Mansi Autonomous Okrug – Ugra

The world's culture can be compared to a large tree with lots of boughs, branches and twigs. It is the cultures of the member communities that get this tree to blossom. And so, by losing just one flower, we risk losing the beauty of the entire crown and, eventually, of the tree as a whole. Which is why preserving linguistic and cultural diversity should be a key government priority, both at the national level and regionally.

The Khanty-Mansi region, known also as Ugra, is home to indigenous Khanty, Mansi and Nenets communities, who have their ancestral lands here. Industrial development of the area has affected – often adversely – the quality of life of these small northern ethnicities and has made them change their seasonal migration routes. As a result, many have had to abandon their traditional nomadic lifestyle altogether and to assimilate linguistically and culturally to the now predominant Russian population.

Having said that, the federal government's demographic policies and the support it provides for the natives based in this country's sub-Arctic territories have led to an over 10% indigenous population growth in Ugra over the past decade. And the number of their children attending kindergartens and schools has increased by 7.6% last year alone.

Ugra is one of Russia's leading member states in terms of the empowerment of circumpolar indigenous communities. Thanks to enabling legislation in effect here, the local Khanty, Mansi and Nenets minorities can fully exercise their language-, culture- and education-related rights. And our regulatory framework for educational and language policies keeps being streamlined – so as to let the natives' ethno-cultural identity be shaped in a more harmonious way.

Back in 2001, the Ugra government signed into law a bill on the Languages of Small Indigenous Communities in Russia's North. Translated into Khanty, this piece of legislation makes it possible for us to support the native inhabitants' customs and culture tactfully and with care.

In addition, two government programmes have been enacted with a view to improving education opportunities for the natives. These programmes help us find meaningful ways to preserve the native languages and traditional cultures of the Khanty, Mansi and Nenets communities.

Special attention in the Ugra region is now paid to the young, part of the reason being our awareness that an ethnic culture cannot possibly survive unless caught on by younger generations.

They say that the language shared by an ethnicity reflects its common soul. In our regional education system, we advocate early language learning – an approach we deem the most efficient as far as ethnic minorities' mother tongues go. The earlier a child gets exposed to his or her mother tongue, the sooner he or she will be able to master it.

In ten of the region's kindergartens, native language acquisition for indigenous children now starts at the age of a year-and-a-half. The kids learn through traditional games and also via various creative practices, which involve drawing, clay moulding, and singing.

Since 2013, several preschool institutions have been running a Language Nest pilot project, which is, basically, about talking with children in their native languages both in and outside the classroom. This is believed to create a more natural environment for learning. At the moment, 172 children aged 5 to 7 are testing the method in five kindergartens across the region.

In indigenous communities across Ugra, we have 29 schools where Khanty, Mansi and Nenets children can now study their respective native languages. And we've been quite successful in maintaining the attendance level there in recent years.

With regard to indigenous minorities, we see native language learning not as a goal onto itself, but, rather, as a means of shaping one's ethnic identity. Our schools contribute to this process not just with their linguistic programmes. They also run on-site community museums, arrange ethnic festivals (such as Crow Day and Wagtail Day) and competitions in traditional sports, and offer training in traditional fishing, hunting and reindeer-breeding practices.

The indigenous children of Ugra now have access to books, periodicals and teaching aids in their mother tongues. A whole number of textbooks in Khanty and Mansi has been compiled over the past few years, including an ABC book, a fun grammar, various dictionaries, and manuals with assignments and exercises. Fiction in the indigenous languages has been extensively published as well, including folk tales, epics, short stories, and myths.

In urban and rural communities, most schools now have Internet connection, and local television shows a lot of features on the history, culture, and lifestyle of the natives, along with a Ugorika teaching show, intended for indigenous audiences willing to master their mother tongue.

We work to create a favourable environment that would facilitate the development of our indigenous children and help them become an integral part of today's IT landscape. Among other things, the kids are encouraged to particularly develop those linguistic skills that they will need for disseminating content in their native languages using modern information and telecommunications technology.

Indigenous children manifesting a strong talent for some particular field of study or for an art can move to live in Ugra's capital, Khanty-Mansiysk, for focused education at one of our specialised schools:

- Ugra Boarding School (Lycée) of Physics and Mathematics;
- Arts Centre (music, visual arts, choreography, etc.);
- Ugra Sports College of the Olympic Reserve.

Ugra's school graduates can continue their studies by proceeding to tertiary education. Nowadays, more than 200 young members of the Khanty, Mansi and Nenets communities go on to study at colleges and universities while more than 600 enter vocational schools providing programmes for aspiring teachers, paramedics, accountants, specialists in transport repairs, etc.

Indigenous students from low-income families are entitled to financial aid from the regional government. We offer more than 650 scholarships every year to help such students pay tuition fees for a study programme at any educational establishment in Russia, along with covering their food, textbook and outfit expenses.

Graduates under 30 and seeking employment in indigenous communities are normally offered relocation allowance.

Clearly, a community's collective moral and aesthetic heritage cannot be passed on to future generations without the help of competent teaching professionals. We therefore provide grants for qualified young teachers applying to work in indigenous settlements.

Of particular value to us are teachers proficient in an indigenous language and well-versed in various teaching techniques, as well as having a good knowledge of the indigenous population's mentality. Teaching staffs working in indigenous-language classes are paid extra.

Since 2007, we have been running a best teacher competition among professionals who teach indigenous languages and literatures. This event is held as part of a general, region-wide competition. Winners of this and other regional teacher contests end up converging on the capital, Moscow, to share their professional expertise within the framework of what is known as National Workshops.

An institute has been set up in Ugra to do research in Ob-Ugric and Samodi languages, and to assemble and preserve folklore in these languages. It is known as the Ob-Ugric Institute for Applied Research and Development. Among the young graduates of Khanty, Mansi and Nenents origin who have opted for a scholarly career, quite a few choose to come here to work. Research fellows under 35 now account for 15% of the staff, and they contribute a lot to the advancement of studies in their respective indigenous languages.

Whatever career indigenous graduates decide to pursue, their ethnic identity provides a foundation that will always be there for them to rely upon. At the end of the day, a community's or a nation's well-being depends on that of every individual member. Ugra authorities are mindful of this, and they build their policies accordingly, giving particular care to children and young people.

Thank you for your attention. I hope the World Expert Meeting will allow us all to further enhance our expertise in preserving and advancing indigenous languages.

We are ready and willing to cooperate.

Irmgarda KASINSKAITE-BUDEBERG

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**A Decade of Promoting Multilingualism in Cyberspace
Through the International Normative Instrument:
*UNESCO's Recommendation Concerning the Promotion
and Use of Multilingualism and Universal Access
to Cyberspace (2003)***

1. Introduction

Since the 1990s, UNESCO has been continuously undertaking numerous initiatives on the promotion of linguistic diversity with an intention to raise awareness about the importance of languages, their endangerment and the need to safeguard them among policy and decision makers, speaker communities, educational and cultural organizations, as well as the general public. On 15 October 2003, Member States of UNESCO's General Conference, recognizing the growing impact of technological and scientific progress, and the importance of promoting multilingualism in order to ensure equitable access to information, especially in the public domain, adopted the *Recommendation concerning the Promotion and Use of Multilingualism and Universal Access to Cyberspace*. Since then, for the promotion and implementation of the Recommendation, UNESCO has made significant efforts around the world to enhance access to multilingual information using Information and Communication Technologies (ICTs) in cyberspace. The article aims to highlight a diversity of conceptual issues that influence the promotion of a multilingual cyberspace and to provide some concrete examples of UNESCO's activities in this field.

2. Building on the normative framework to promote multilingualism

At an international level, the issue of languages and rights of linguistic communities was first introduced in the context of the *Universal Declaration of Human Rights* (UDHR) in 1948, which emphasized language as one of the key prerequisites for the realization of human rights and fundamental freedoms. Article 2 of the UDHR states that “*everyone is entitled to all the rights and freedoms set forth in this declaration, without distinction of any kind, such as*

race, colour, sex, language, religion...” Additionally, communicating in one’s home language was indicated as central to the right to freedom of expression and access to information, as set out in Article 19 of the UDHR.

Since then, the issue of languages, particularly in danger of disappearing, has gained greater awareness among the academic community, educators, cultural, memory and information organizations such as museums, archives and libraries, as well as governments, international organizations, media and other public sector organizations. This has resulted in the development and endorsement of several international normative instruments such as conventions, treaties or recommendations which recognize different aspects of linguistic diversity. For instance, Article 5 of the *UNESCO Convention and Recommendation against Discrimination in Education* (1960) stressed the importance of the use and teaching of members of national minorities in their own language. Another example is the International Labour Organization’s (ILO) *Convention 169 concerning Indigenous and Tribal Peoples in Independent Countries* (1989) which affirmed the rights of minorities to read and write in their own indigenous language or in the language most commonly used by the group to which they belong (Article 28). Some culture-related conventions, such as the *European Charter for Regional or Minority Languages* (1992), *Universal Declaration on Cultural Diversity* (2001), *Convention for the Safeguarding of the Intangible Cultural Heritage* (2003) and many other normative instruments and advocacy actions, such as proclamation of 21 February as *International Mother Language Day*, provided conceptual framework for a range of actions to promote and preserve cultural, including linguistic, diversity around the world.

In 2003, recognizing language as “*necessary to promote the free flow of ideas by work and image, and convinced that the development of ICTs may both provide opportunities to improve the flow of information and present challenges for ensuring the participation of all in the global information society*” (Preamble), the UNESCO General Conference adopted the *Recommendation concerning the Promotion and Use of Multilingualism and Universal Access to Cyberspace*. Through this unique normative instrument, UNESCO encourages its Member States to support equitable and affordable access to information and consider undertaking concrete actions at a national level. In the following years, UNESCO articulated the concept of knowledge societies which emphasized linguistic diversity as a key building block besides access to education, freedom of expression and access to information.

UNESCO’s commitment to languages and its leading role in encouraging access to information for all has been integrated in other international cooperation mechanisms and frameworks, such as the *Plan of Action* (2003) and *Tunis Declaration* (2005) of the World Summit on the Information Society

(WSIS), as well as in discussions with the Broadband Commission for Digital Development and the Internet Governance Forum (IGF).

3. Periodical review for monitoring and identification of key trends, progress and challenges

The endorsement of the Recommendation (2003) by UNESCO obliged Member States to provide periodical reports every four years on the measures taken for its implementation. These reports provide a useful overview of recommendations given to national organizations and allow identification of practical difficulties encountered. Since 2003, three periodical review processes were launched by UNESCO (2007, 2011 and 2014).

The most recent third consolidated report on the implementation of the Recommendation was prepared based on the reports submitted by 22 Member States. It was observed that some progress has been made to develop multilingual content and appropriate systems for minority languages, including establishment of institutional infrastructures, integration of language issues in cyberspace in digital agenda and ICT strategies, legal structure, education programmes and networks.

Another important improving factor is related to the significant growth of broadband connectivity around the world, particularly in public spaces, providing information and services to citizens.

With this rapid technological progress, many countries were obliged to review and reform their copyright systems. In this regard, special attention should be given to the promotion of open access to public and scientific information.

Some countries reported on concrete policy and legal measures taken for the inclusion of migrant populations and persons with disabilities. These provisions, made to ensure equal access to information of persons with disabilities, have a direct impact on the ratification and implementation processes of national governments of the *United Nations Convention on the Rights of Persons with Disabilities* (2006), which calls both for provision of accessible information and support of specific cultural and linguistic identity, including sign languages and deaf culture.

Good practices were identified for digitization and preservation of cultural and historical heritage, which are linked to the *Convention for Safeguarding of Intangible Cultural Heritage* (2003) and *UNESCO Charter on the Preservation of the Digital Heritage* (2003). The localized top-level domain names by the Internet Corporation for Assigned Names and Numbers (ICANN) offered many new opportunities and benefits for Internet users around the world,

particularly those in the more than 60 per cent of non-English Internet users, by allowing them to establish use of their native languages and scripts online.

However, the reports also provided information on challenges and difficulties faced in promoting multilingualism in cyberspace. One of the broad and far-reaching challenges is Internet neutrality and openness. It was emphasized that the Internet should remain open, free, diverse, multilingual, and safe for its users. It is therefore important that appropriate technological tools be prepared and universal values in cyberspace promoted.

Some countries stated that recent developments in broadband connectivity and the growing role of the Internet, as a global public good, requires for elaboration of a holistic approach for action, which is needed to make Internet truly multilingual.

Another challenge is reduction of financial resources to public information providers, such as Public Service Broadcasters (PSBs), which are mandated to provide information to lesser-used and minority language users and often remain a key information source.

Open access strategies and solutions do not always clearly take into consideration the multilingual aspect, as many representatives of the scientific community tend to publish their scientific results in dominant languages and make them available through peer-reviewed journals and publications only.

In addition, many countries reported that despite technological developments, Internet services and access to Internet content remain costly, limited and inaccessible, particularly in remote areas and for users of lesser-used and minority languages, and persons with disabilities. Among other challenges, organizational, sociological and financial aspects often disrupt ongoing projects and initiatives related to the promotion of multilingualism in cyberspace.

4. Concrete efforts taken to ensure access to a multilingual Internet

For the promotion of the Recommendation (2003), through its large network of field offices around the world and its Headquarters in Paris, UNESCO has implemented a number of concrete activities illustrated with case studies in the following areas:

- **Policy, standards and tools development**

The international normative framework at national levels reinforced development of specific languages policies, introduction of concrete measures, and production of appropriate tools designed by public and private bodies.

Case study 1: Glossary of Internet Governance terms for Arabic speakers

In order to effectively participate in international multi-stakeholder processes, national representatives need to understand and be kept up-to-date with the latest terms. In 2013, UNESCO, together with the Internet Corporation for Assigned Names and Numbers (ICANN) and the International Information Centre for Terminology (Infoterm), initiated the development of a glossary of Internet Governance terms for Arabic speakers.

Case study 2: Development of standards for Ethiopic script

The development of a standard in a national script for use by communities is seen as a precondition for content development in local languages. In order to tackle this issue, a workshop on the standardization, development and dissemination of the Ethiopic script, used to write Amharic, the official working language of Ethiopia, was held in Addis Ababa in 2003 in collaboration with the United Nations Economic Commission for Africa (UNECA).

- **Capacity building**

A number of capacity building initiatives have been launched by UNESCO around the world with the aim to strengthen national and regional institutional capacities to foster the implementation of language policies, train key players on the technical applications for language promotion, produce self-training tools and training materials, as well as share information and exchange of good practices.

Case study 3: Voice of Aiyl (Voice of Village)

The Voice of Aiyl mobile Android application, launched in Kyrgyzstan, can be used for reading articles, listening to audio and watching video clips published by community multimedia centres. Villagers can use the application as a pocket digital radio by downloading podcasts on their smartphones, significantly increasing their access to information. The app delivers the voice of rural women, youth and children in podcast form in four languages, Kyrgyz, Russian, Uzbek and English. Voice of Aiyl aims to increase access to public services, particularly for vulnerable groups such as women, youth and children, in 30 rural municipalities in Kyrgyzstan.

Case study 4: Role of media and technologies in disseminating and preserving languages and linguistic diversity

The second Global Seminar on Linguistic Diversity, Globalisation and Development, which took place in Brazil in December 2009, looked at the role that the media and new technologies can play in disseminating and preserving languages and linguistic diversity. Backed by UNESCO and other international bodies' leading efforts to promote and enhance the status of linguistic diversity, experts at the seminar called for more languages to be used. Participants included India's public television network, BBC World Service, ARTE TV, Brazil's Globo media conglomerate and Televisió de Catalunya, Catalonia's public broadcasting network.

- **Promotion of local content development**

The creation of local content and its distribution through both local and global Internet infrastructures is an important aspect of inclusive knowledge societies. This means having the capacity not just to acquire information, including multilingual local content, but also to transform it into knowledge and understanding thereby empowering individuals to increase their livelihoods and contribute to the social and economic development of their society.

Case study 5: Research on the relationships between local content, Internet development and access prices

In order to better understand the creation and preservation of cultural heritage in relation to the implications of and relationship to the Internet and ICTs, policymakers need to be supplied with evidence-based research results. In 2011, UNESCO, the Organisation for Economic Cooperation and Development (OECD) and the Internet Society (ISOC) undertook a study on the economic aspects of local content creation and Internet infrastructure. It considered whether the development of local content and infrastructure had an impact on the cost for local users of accessing the Internet for local users. It also looked at the enabling environment for sustainable, broad-based and robust local content industries. The research confirmed that local content, Internet infrastructure and access prices are interrelated. Some concrete recommendations were formulated for policymakers in that respect.

Case study 6: Access to public domain content: launch of a municipal website in Casablanca, Morocco

UNESCO, together with the Islamic Educational, Scientific and Cultural Organisation (ISESCO), supported the development of an information system for the municipality of Sidi El Bernoussi in Casablanca, Morocco, that was launched in October 2006. The main objective was to promote good governance and provide information that corresponds to the needs of all citizens, enabling them to make informed decisions on the issues that affect their everyday lives, their environment and their future.

• **Efforts to measure linguistic diversity in cyberspace**

Substantial attention and support to the initiatives and projects measuring linguistic diversity on the Internet were provided by the Organization based on the conviction that there are clearly relationships between the presence of languages on the Internet and the diversity of languages within a country. Furthermore, development of appropriate language policies for the Internet and promotion of linguistic diversity should be based on reliable data.

Case study 7: Research on measurement of linguistic diversity on the Internet

Two important studies were undertaken which culminated in the 2005 publication of *Measuring linguistic diversity on the Internet*, produced by Funredes, Latin Union, Indiana University, members of the Language Observatory Project (LOP) and the Japan Science and Technology Agency. Further publications were produced: in 2009 publication of *Twelve years of measuring linguistic diversity in the Internet: balance and perspectives* by members of Funredes and Latin Union, and in 2007, *Securing a place for a language in cyberspace* by Laboratory on “Language, Languages and Cultures of Sub-Saharan Africa”. The studies show that there are many technical challenges in calculating language diversity on the Internet, but they also offer a number of suggestions on how to address these difficulties, including proposing research methods for measuring linguistic diversity in cyberspace.

Case study 8: Sharing experiences on measuring languages in cyberspace

A workshop was organized by UNESCO, the Language Observatory Project (LOP), and the World Network for Linguistic Diversity (WDL) and supported by the Japan Science and Technology Agency (JST), which provided a platform for sharing experiences on measuring languages in cyberspace. A comparative discussion was held on the different methodologies for measuring the presence and absence of languages in the digital world. Participants shared experiences and the findings of the web language surveys on Asia and Africa. They also discussed a possible roadmap to promote multilingualism and equal access in cyberspace and to demonstrate the usefulness and workability of the multi-stakeholder network.

- **Internationalized Domain Names**

Two important aspects of the Internet are the Domain Name system and Internet Protocol (IP) addressing. The Internet Corporation for Assigned Names and Numbers (ICANN) has developed the Internet Domain Name System to introduce the Internationalized Domain Names (IDNs) and Top-Level Domains (TLDs). This made it possible for non-Latin language Internet users to access domain names in their own language using different scripts. A number of initiatives were taken to ensure that Member States are fully aware about the IDN-related development.

Case study 9: Analyzing the deployment of Internationalized Domain Names

Since 2011, UNESCO, together with the European Registry of Internet Domain Names (EURid), has prepared annual world reports which examine the global use of Internationalized Domain Names (IDNs) that support non-Latin scripts and online multilingualism. The reports are based on surveys, studies and research conducted by EURid in cooperation with industry experts and sector leaders. The 2014 World Report shows that IDNs help enhance linguistic diversity in cyberspace, make the IDN market more balanced in favour of emerging economies, as well as increase of IDNs as accurate predictors of the language of the web content. However, more work needs to be done on multiple fronts to ensure that IDNs can be used seamlessly.

- **International cooperation**

In order to draw the attention of various stakeholders to the importance of multilingualism for development of the Internet, UNESCO raised awareness on the issues through existing international cooperation mechanisms and frameworks. For instance, within the context of the World Summit on the Information Society (WSIS), UNESCO acted as one of the facilitators of Action Line C8 “Cultural diversity and identity, linguistic diversity and local content” and Action Line C3 “Access to information and knowledge”. UNESCO’s involvement in the WSIS processes resulted in organization of several important consultations, workshops, mainstreaming linguistic diversity on the Internet issues into strategic documents, helped to coordinate the work of key partners, and launch new projects. The Intergovernmental Information for All Programme (IFAP), with a mandate to promote the creation of equitable societies through better access to information, has supported a wide range of projects and initiatives in the subject area. Various issues were also discussed at the Broadband Commission for Digital Development and Internet Governance Forum about multilingualism.

- **Special initiatives**

Taking into consideration that technological progress provides enormous potential for languages, including those in danger, to be present on the Internet, and means for languages documentation and content sharing, UNESCO is in the process of using the online edition of UNESCO Atlas of Languages in Danger to create a new World Atlas of Languages. It will include digital maps, data sets covering all of the world’s languages, new technical functionalities and content levels. After the consultative process in October 2014, UNESCO released a strategic document on the next steps towards the launch of this World Atlas of Languages. It also included recommendations for the elaboration of a plan of action aimed at extending global partnerships and translating the recommendations developed by the experts into concrete national and regional actions.

5. Conclusions

For the past ten years, UNESCO has actively promoted the concept of knowledge societies that are open, pluralistic, equitable, and participatory. UNESCO is also strongly committed to promoting linguistic diversity and multilingualism on the Internet. Through the voice of local communities, universities, information and media professionals, IT sector and governments

showcased in this document, UNESCO demonstrates its major federative role in fostering international cooperation and promoting innovation, linguistic diversity and multilingualism on the Internet.

It is evident that some progress has been achieved in promoting multilingualism on the Internet taking advantage of technological development, particularly Information and Communication Technologies and increasing expansion of broadband connectivity which permits not only improved local infrastructures, but also supports multilingual education, information sharing, e-business, research and many other sectors. It is also equally important to acknowledge impact made by applying open access principles, strategies and solutions to facilitate access to information, and sharing of digitized content, particularly scientific and public domain information. PSBs continue to be a key information provider in lesser-used and minority languages. However, despite tangible progress made there are still many obstacles which require special attention of public governmental, educational, research, industry and other institutional bodies' attention.

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Mapping Languages for the Brazilian Language Policies

The Brazilian experience in producing Social Technologies for Multilingualism (STM) is relatively recent, mostly dating from the period after the promulgation of the 1988 Constitution – considered the “Citizen Constitution” – which ended a period of 21 years of military dictatorship (1964–1985). Building these technologies is related to the installed trend to deepen the democratic participation of different sectors of Brazilian society in the construction of a pluralistic nation.

This text briefly presents three STM initiatives with different origins and locations in the Brazilian State, all dated from the first decade of this century. They help to understand how the State – even though timidly – begins to stray from the desideratum of “one state, one people, one language” and prepares to take on the challenges, increasingly urgent, posed by the pluri- and transnationalism and the pluri- and transcitizenship:

- 1) Co-officializing Languages at the Municipality Level (first languages officialized in 2002);
- 2) Promoting Bilingualism on the Country’s Borders: The Intercultural Bilingual Border Schools Project (from 2005);
- 3) Recognizing Languages as National Cultural Heritage (The National Inventory of Language Diversity approved in 2010, first languages recognized in 2014).

It is possible to propose that these initiatives were all born from the same source of inspiration: the *Indigenous Education Policy*, born of the Constitution of 1988, and established more clearly with the Law of Guidelines and Bases of National Education (LDB) 1995. The Constitution of 1988 guaranteed linguistic and cultural rights to indigenous peoples for the first time in the history of Brazil (Brazilian Federal Constitution, sections 210, 231 and 232). This was possible because Brazil signed the ILO Convention 169, which required that signatory countries established cultural rights in their constitutions for autochthonous peoples. The democratic struggle of

indigenous peoples in the 1960s and 1970s for land, human and cultural rights led the State to this new attitude.

The traditional language policy of the Portuguese State, also adopted by the new State after Brazilian independence (1822), was oriented to build monolingualism in Portuguese. A large body of legislation supported this “longue durée” trend, transplanted to America, Africa and Asia by the colonial enterprise, despite the state’s weakness to deploy Portuguese as the only language of so vast territories.

Two specific historical actions can be highlighted regarding explicit language policies for linguistic repression: 1) the Marques de Pombal’s *Indian Directory* of 1757, oriented to attack the Amazonian General Language, (Língua Geral or Nheengatu), at that time the language of wider communication of that region for establishing Portuguese in its place, and 2) in the 20th century, the *Education Nationalization Process* of President Getúlio Vargas’ Estado Novo (1937–1945), especially oriented to denigrate and ban immigration languages like German, Italian, Japanese, Polish and others, then spoken at home by millions of Brazilian citizens.

Certain articles of Decree # 77 of Norton de Matos, Portuguese colonial governor of Angola in the 1920s, published in 1921, summarize well the spirit of Portuguese (and Brazilian) language policy, constantly renewed throughout the centuries. It is important to remember that at that time in Angola, as happened till 1911 in Brazil, the Catholic missions played a parastatal role, taking care of education:

- 1) Article 1, paragraph 3: The teaching of the Portuguese language is mandatory on any mission;
- 2) Article 1, paragraph 4: The teaching of any foreign language is forbidden;
- 3) Article 2: It is not allowed to teach indigenous languages at mission schools.

This change of direction in language policies is what Richard Ruiz (1984) calls the ideological transition from a concept of “language as a problem” to a concept of “language as a right” and “language as a resource”.

Languages and multilingualism appear as a problem where languages were interdicted both as instruments of intellectual and symbolic production and formulation of life strategies, as in the case of the different colonial processes and, for minorities, the building of the monolingual national state.

Languages and multilingualism become *rights* by an expanding concept of citizenship, necessary to the new governance, in which the state must get closer to the citizens to avoid the risk of losing their loyalty as, for example, through massive emigration.

It is not possible (today) to understand diversity as tenacious resistance to change, as an entrenchment of minorities in their places of refuge. Nowadays their demands are formulated in terms of modern rights, both in industrialized and in peripheral countries; and the movements of subordinates are appropriating more and more national and global themes.
(Hamel 1995: 11)

Languages and multilingualism become also *resources* in the *knowledge society*, because commodities become increasingly symbolic and immaterial, circulating on the Internet, and customized for a multiplicity of specific language markets. Languages and multilingualism, now, instead of hindering the expansion of the capitalist market, as in the time of the national state, are essential for its expanding.

The context of how the profit is generated in the New Economy and how the process of productivity gains occur seems to show that not only the new capitalism authorizes the operation of the production in more languages – because one wants to win consumer markets in all these languages – but require this production in a growing number of languages. (Oliveira 2010: 25)

Officializing languages at the local level

Brazil is a federal country with 27 states and 5,507 municipalities, with a population of 205 million inhabitants. Its federal structure ensures that not only the Union, but also the states, and even municipalities have legislative chambers capable of producing legislation. Of these municipalities, a small number, estimated at about 120, have a majority or large minorities that speak not only Portuguese but also other languages, indigenous or immigration languages.

Indigenous languages, in general, are spoken in specific rural areas, the so-called Indigenous Lands, federal estate with unlimited usufruct of indigenous peoples and that had undergone complex demarcation processes. These indigenous lands, even if they are confined to the territory of a particular municipality, relate more to federal policies than to municipal ones. Over the past 25 years, however, a trend towards urbanization of indigenous peoples

was conformed, and languages started to be spoken in the urban core of the city, thus creating the need for linguistic policies related to municipal management.

On the other hand, there are municipalities, resulting from the colonization of the 19th century, especially in southern Brazil, which still have a marked ethnic character, such as the municipalities of the German, Italian, Japanese, Polish or Ukrainian population in the states of Rio Grande do Sul, Santa Catarina, and Paraná, for example. German languages, such as Hunsrückisch and Pomerano or Italian languages, such as Talian (Brazilian Veneto) are strongly and seamlessly spoken by the population of these municipalities since the beginning or from the second half of the 19th century, respectively.

The initiative of co-officializing one or more languages in a municipality, geographical and political unity, where a minority language can constitute a majority in the Brazilian demolingistic structure, was born in 2002 in São Gabriel da Cachoeira (Northwestern Amazon), in the triple frontier of Brazil, Colombia and Venezuela. This municipality, with 112,000 square kilometers, and where 24 languages from five different language families are spoken, is the most multilingual of the country, and probably of the Americas.

The Federation of Indigenous Organizations of Rio Negro (FOIRN) developed the proposal for co-officializing the three major vehicular languages of the region – Tukano, Nheengatu and Baniwa, took the proposal to the City Council, which approved it, and created a new jurisprudence for language legislation in Brazil. In 2006, the bill was regulated and some implementation shares have become possible.

Since then, 16 other municipalities officialized 11 languages alongside the Portuguese, seven indigenous languages (Tukano, Nheengatu, Baniwa, Akwen-Xerente, Guarani, Makushi and Wapishana) and four immigration languages (Hunsrückisch, Pomeranian, Talian, and German), a process that can be characterized as a bottom-up social movement in defense of linguistic rights and multilingualism.

The map below shows the layout of co-officialized languages in Brazil. One may note that the southern and northern regions, just the most multilingual of the country, are the regions which have the largest number of experiences in the field.

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- 11 languages**
- 17 municipalities**
- LIBRAS -**
- National sign language**



The process of co-officializing languages at municipal level has given a new visibility to the Brazilian multilingualism and the understanding that citizens from varied backgrounds are entitled to continue using their tongues. Moreover, the process has created new demands regarding languages, both referring to planning the language corpus, leading to a higher degree of standardization, such as in relation to the expansion of their use in education, health, media and other fields.

Promoting multilingualism in the border

In many regions of Brazil, as in the Amazon, vast spaces of demographic gaps traditionally separated the country of its Spanish, English, Dutch or French speakers in South America. The country's southern region, specifically the state of Rio Grande do Sul, has been, since the beginning of colonization, the only area of "living frontier" in the country, and for no other reason, the region of most wars that Brazil faced in the 18th and 19th centuries.

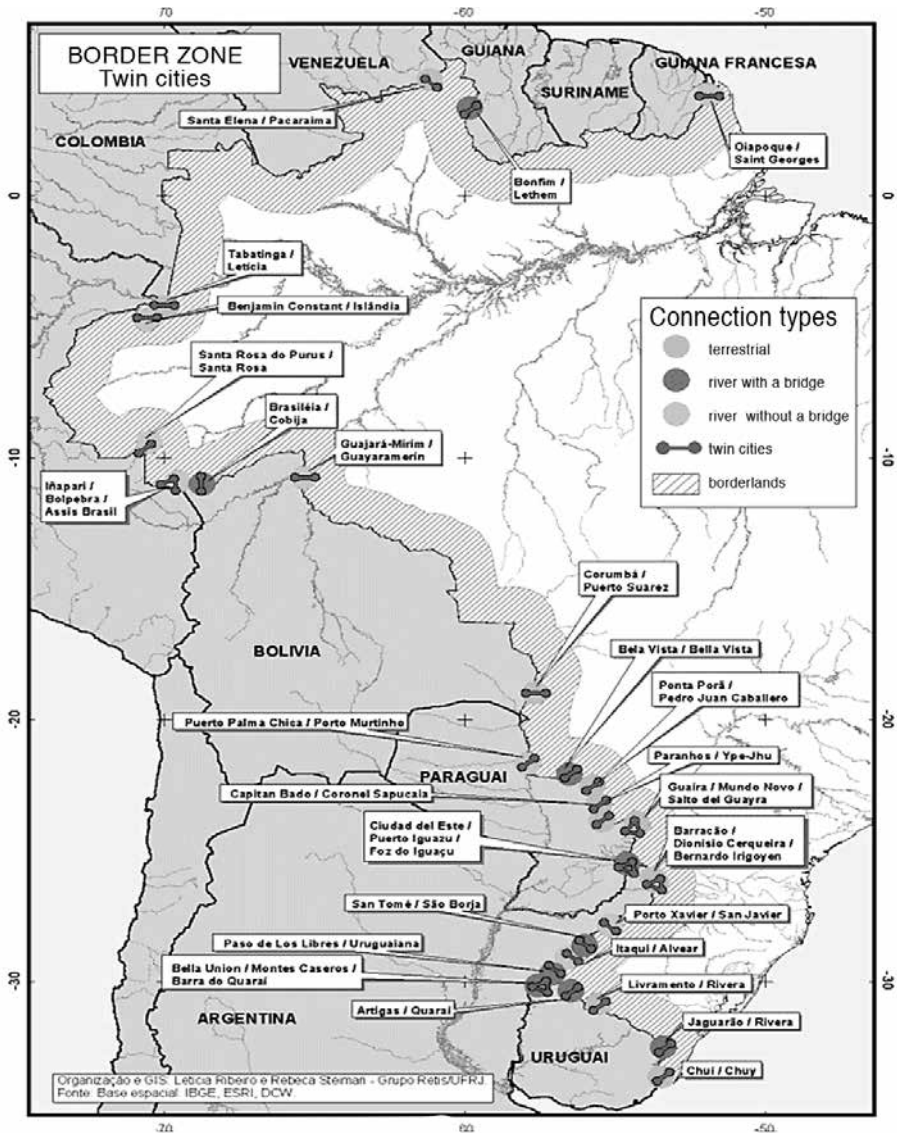
However, many of these borders were being occupied in the 20th century, leading to the phenomenon of so-called “twin cities”, i.e. conurbation centres on both sides of the border, some separated by a river, others by the imaginary line of a dry border and posing in permanent and deep contact not only Portuguese and Spanish, but with a multitude of indigenous and immigration languages of people who have chosen the border area to make their life, such as Arabic- or Chinese-speaking population, who hegemonized retail trade, taking advantage of the different exchange rates between the countries.

The perspective’s change regarding the monolingual state brought the first effects also on the borders. Gradually the border was no longer seen as the place where the country ends, the place of threat of foreign invasion, or the location of trafficking and contraband, but as the locus of positive contact and proficient exchanges, internationalized economic processes and cultural integrationism.

For this reason, in 2003, Brazilian and Argentine governments signed a technical cooperation agreement, entitled Calafate Charter, which led, in 2005, to the creation of the Intercultural Bilingual Border Schools Project (PEIBF), currently counting with 164 Brazilian schools.

For this proposal, public schools on both sides of the border begun to work together through a system known as “cross”: two days a week, for example, Argentine teachers cross the border to the Brazilian side and teach Brazilian children in Spanish; at the same time Brazilian teachers do the reverse movement and teach Argentinian children in Portuguese. A new curriculum design allows the development of common educational projects that involves perspectives of both countries.

In 2009, the PEIBF was no longer a bilateral project (Brazil-Argentina), but was incorporated into the Educational Sector of Mercosur (SEM), going to run in Brazilian borders not only with Argentina, but also with Uruguay, Paraguay and Venezuela. The following map shows the twin cities of Brazil with its neighboring countries, and indicates the scope of action of the Intercultural Bilingual Border Schools Project, aimed at building a positive perspective on regional integration and extending Portuguese-Spanish bilingualism to many South American citizens.



Languages as the nation's intangible heritage

The expansion of the notion of cultural heritage, surpassing the old idea that heritage refers only to art objects and architectural works – the so-called “Stone-and-Whitewash Heritage” – also brought the understanding that historically spoken languages in a country, whose speakers have contributed to nation-building, should also be subject of recognition and should be funded concerning safeguard actions.

Brazil has a linguistic repertoire of over 230 different languages, some of them spoken since before the arrival of Europeans in 1500, as is the case of indigenous languages, and other, of immigration, that came as early as in the first decades of the 19th century. In a contemporary interpretation, all these languages are “Brazilian languages”, that is, language communities that have contributed, in one way or another, to building the country and are currently integrated into citizenship. This is not, however, the prevailing interpretation in important sectors of the country’s political life, to which only Portuguese represents the nation.

In 2006, the first legislative seminar on languages as intangible heritage occurred in the Brazilian Parliament, under the auspices of the Committee on Education and Culture of the House of Representatives, of the Historical and Artistic Heritage Institute (IPHAN) and the Institute for Research and Development in Language Policy (IPOL). This seminar forwarded the creation of a methodological approach that was the starting point of the recognition process.

In 2006–2007, an inter-ministerial working group developed a methodology that was implemented in the period 2008–2010, allowing the pilot inventory of the first three languages, to be recognized as Brazilian Cultural Reference in 2014: the Guarani-Mbya, the Assurini of Trocar and Talian. In 2010, the National Inventory of Linguistic Diversity (INDL) was created and established five categories of languages, from a historical and sociological point of view, to be recognized as intangible heritage: indigenous languages, languages of immigration, sign languages, African-Brazilian languages, creoles and Portuguese regional varieties.

In 2015–2016, four languages are being inventoried: Hunsr ckisch, Pomeranian, Yanomami and LIBRAS, the Brazilian Sign Language. The funds for these inventories come from the Historical and Artistic Heritage Institute of the Ministry of Culture, and from the Diffuse Rights Fund (FDD) of the Ministry of Justice.

It is important to note that the linguistic inventory process only starts if there is a mobilization of the linguistic community and a formal request of the entities that represent the language, so that this has an important role in the self-organization of language communities and their ability for policy intervention.

The National Inventory of Linguistic Diversity (INDL), as a federal project, is linked to the co-officialization processes of languages at the municipal level, described above, with positive effects for the extension of language rights in Brazil, positively valuing the Brazilian linguistic traditions.

Final considerations

The three briefly presented Brazilian language policies illustrate the slow changes of perspective in the 21st century in relation to the value of languages and multilingualism, abandoning the historical position that saw language as a problem, despite many contradictions and resistance. The Social Technologies for Multilingualism (STM) help the State to recognize the increasingly plurinational character of the society it represents and to initiate moves to increase its capacity to include that plurinationality in a broad citizenship concept.

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Multilingual Policy in China: Experiences from Yunnan Province

The Chinese government has identified and recognised 55 ethnic minorities beside Han Chinese since the founding of the PRC in 1949. These minorities use roughly 130 languages. As a result of its nationalities policy, the government has established 155 ethnic autonomous areas, including 5 autonomous regions, 30 autonomous prefectures, 120 autonomous counties (banners). The People's Republic of China is a unitary multi-ethnic State created jointly by the people of all its nationalities, the PRC Constitution claims.

1. National policy on the spoken and written minority languages in China

The Constitution of the People's Republic of China, the Law of the People's Republic of China on Regional National Autonomy and another 14 laws explicitly stipulate: "All nationalities have the freedom to use and develop their own spoken and written languages." Such is the ethnic minority language policy in China. The relevant legal instruments of the minority language policy are as follows.

1.1. *The Constitution of the People's Republic of China*

(Adopted at the Fifth Session of the Fifth National People's Congress and promulgated for implementation by the Announcement of the National People's Congress on December 4, 1982. Amended in accordance with the Amendments to the Constitution of the People's Republic of China, adopted respectively at the First Session of the Seventh National People's Congress on April 12, 1988, the First Session of the Eighth National People's Congress on March 29, 1993, the Second Session of the Ninth National People's Congress on March 15, 1999 and the Second Session of the Tenth National People's Congress on March 14, 2004).

Article 4: All nationalities in the People's Republic of China are equal. The State protects the lawful rights and interests of the minority nationalities and upholds and develops a relationship of equality, unity and mutual assistance among all of China's nationalities. Discrimination against and oppression of any nationality are prohibited; any act which undermines the unity of the nationalities or instigates division is prohibited.

The State assists areas inhabited by minority nationalities in accelerating their economic and cultural development according to the characteristics and needs of the various minority nationalities.

Regional autonomy is practiced in areas where people of minority nationalities live in concentrated communities; in these areas organs of self-government are established to exercise the power of autonomy. All national autonomous areas are integral parts of the People's Republic of China.

All nationalities have the freedom to use and develop their own spoken and written languages and to preserve or reform their own folkways and customs (cf. Article 3, Constitution 1954; Article 4, Constitution 1975, 1978, 1982).

Article 121: In performing their functions, the organs of self-government of the national autonomous areas, in accordance with the regulations on the exercise of autonomy in those areas, employ the spoken and written language or languages in common use in the locality (Article 71, Constitution 1954; Article 39, Constitution 1978; Article 121, Constitution 1982).

Article 134: Citizens of all China's nationalities have the right to use their native spoken and written languages in court proceedings. The people's courts and people's procurators should provide translation for any party to the court proceedings who is not familiar with the spoken or written languages commonly used in the locality (Article 77, Constitution 1954; Article 134, Constitution 1982).

In an area where people of a minority nationality live in a concentrated community or where a number of nationalities live together, court hearings should be conducted in the language or languages commonly used in the locality; indictments, judgments, notices and other documents should be written, according to actual needs, in the language or languages commonly used in the locality (cf. Article 77, Constitution 1954; Article 134, Constitution 1982).

1.2. The Law of the People's Republic of China on regional national autonomy

(Adopted at the Second Session of the Sixth National People's Congress, promulgated by Order No.13 of the President of the People's Republic of China on May 31, 1984, and effective as of October 1, 1984).

There are 8 articles about the Law on Minority Language Policy. Besides 3 articles of the Constitution, there are 5 additional articles about the national policy on minority languages.

Article 21: While performing its functions, the organ of self-government of a national autonomous area shall, in accordance with the regulations on the exercise of autonomy of the area, use one or several languages commonly used in the locality; where several commonly used languages are used for the performance of such functions, the language of the nationality exercising regional autonomy may be used as the main language.

Article 37: Schools where most of the students come from minority nationalities should, whenever possible, use textbooks in their own languages and use these languages as the media of instruction. Classes for the teaching of Chinese (the Han language) shall be opened for senior grades of primary schools or for secondary schools to popularize Putonghua, the common speech based on Beijing pronunciation.

Article 38: The organs of self-government of national autonomous areas shall independently develop literature, art, the press, publishing, radio broadcasting, the film industry, television and other cultural undertakings in forms and with characteristics unique to the nationalities.

The organs of self-government of national autonomous areas shall collect□sort out, translate and publish books of the nationalities and protect the scenic spots and historical sites in their areas, their precious cultural relics and their other important historical and cultural legacies.

Article 47: In the prosecution and trial of cases, the people's courts and people's procurators of national autonomous areas shall use the language commonly used in the locality. They shall guarantee that citizens of the various nationalities enjoy the right to use the spoken and written languages of their own nationalities in court proceedings. The people's courts and people's procurators should provide translation for any party to the court proceedings who is not familiar with the spoken or written languages commonly used in the

locality. Legal documents should be written, according to actual needs, in the language or languages commonly used in the locality.

Article 49: The organs of self-government of a national autonomous area shall persuade and encourage personnel of the various nationalities to learn each other's spoken and written languages of the local minority nationalities. While learning and using the spoken and written languages of their own nationalities the personnel of minority nationalities should also learn Putonghua and the written Chinese (Han) language commonly used throughout the country.

Awards should be given to state functionaries in national autonomous areas who can use skilfully two or more spoken or written languages that are commonly used in the locality.

Article 53: The personnel and masses of the various nationalities must be educated to trust, learn from and help one another and to respect the spoken and written languages, folkways and customs and religious beliefs of one another in a joint effort to safeguard the unification of the country and the unity of all the nationalities.

2. Propaganda and promotion of minority spoken and written languages in Yunnan

Yunnan is a province of the People's Republic of China which is located in the southwestern corner of the country. The capital of that region is Kunming. The Yunnan province of the People's Republic of China covers an area of 394,000 square kilometres. The province borders Guangxi and Guizhou in the east, Sichuan in the north, and the Tibet Autonomous Region in the northwest. Yunnan shares a border of 4,060 kilometres with Myanmar in the west, Laos in the south, and Vietnam in the southeast jointly.

2.1. Introduction

Yunnan hosts the largest total numbers of ethnic groups in all provinces and autonomous regions in China. Among the country's 55 recognised ethnic groups, twenty-five inhabit Yunnan. The Yunnan Province has established 8 autonomous prefectures and 29 autonomous counties since 1949. The total population of these ethnic groups is 15.337 million, or 33.4% of the province's general population (2010 Census). Respective population of each and all minority groups in Yunnan is provided in Tables 1–3.

There are Yi, Hani, Bai, Dai, Zhuang and Hmong – 6 ethnic groups with over a million people in Yunnan, as shown in Table 1.

Table 1. Ethnic groups of over a million people in Yunnan

Ethnic Group	Population (mln)	Location	Spoken Language
Yi	5.028	All over Yunnan, especially Honghe Hani and Yi Autonomous Prefecture; Chuxiong Yi Autonomous Prefecture	Yi language, Tibeto-Burman
Hani	1.63	South, Honghe Hani and Yi Autonomous Prefecture, etc.	Hani language, Tibeto-Burman
Bai	1.561	West, Dali Bai Autonomous Prefecture, etc.	Bai language, Tibeto-Burman
Dai	1.222	West and South-West, Dehong Dai and Jingpho Autonomous Prefecture and Xishuangbanna Dai Autonomous Prefecture, etc.	Tai language, Kam-Tai
Zhuang	1.215	South-East, Wenshan Zhuang and Hmong Autonomous Prefecture, etc.	Zhuang language, Kam-Tai
Hmong	1.203	Wenshan Zhuang and Hmong Autonomous Prefecture, Honghe Hani and Yi Autonomous Prefecture and Zhaotong Municipality, etc.	Hmong language, Hmong-Mien

There are 9 ethnic groups with more than one hundred thousand to one million, as shown in Table 2.

Table 2. Ethnic groups of more than one hundred thousand

Ethnic Group	Population (mln)	Location	Spoken Language
Hui	0.72	All over Yunnan	Mandarin Chinese
Lisu	0.668	North-West, Nujiang Lisu Autonomous Prefecture, Lijiang Municipality and Diqing Tibetan Autonomous Prefecture, etc.	Lisu language, Tibeto-Burman
Lahu	0.475	Lancang Lahu Autonomous County and Lincang Municipality, etc.	Lahu language, Tibeto-Burman

Wa	0.41	Cangyuan and Ximeng Wa Autonomous Counties, etc.	Wa language, Mon-Khmer
Naxi	0.33	North-west, Lijiang Municipality and Diqing Tibetan Autonomous Prefecture, etc.	Naxi language, Tibeto-Burman
Mien	0.21	Wenshan Zhuang and Hmong Autonomous Prefecture, Honghe Hani and Yi Autonomous Prefecture, etc.	Mian and Bunu languages, Hmong-Mien
Tibetan	0.16	Northwest, Diqing Tibetan Autonomous Prefecture, etc.	Tibetan, Tibeto-Burman
Jingpho (Kachin)	0.14	West, Dehong Dai and Jingpho Autonomous Prefecture, etc.	Jingpho (Kachin) and Zaiwa languages, Tibeto-Burman
Blang (Bulang)	0.10	Southwest, Xishuangbanna Dai Autonomous Prefecture, etc.	Blang language, Mon-Khmer

There are also 10 ethnic groups less than one hundred thousand-strong. Dulong have only 7 thousand, as shown in Table 3.

Table 3. Ethnic groups of less than one hundred thousand

Ethnic Group	Population (mln)	Location	Spoken Language
Bouyei (Buyi)	0.087	Luoping and Fuyuan Counties (East), Hekou County (Southeast), etc.	Bouyei language, Kam-Tai
Achang	0.053	Dehong Dai and Jingpho Autonomous Prefecture (West), etc.	Achang language, Tibeto-Burman
Pumi	0.046	Lijiang Municipality and Nujiang Lisu Autonomous Prefecture (North west), etc.	Pumi language, Tibeto-Burman
Mongolian	0.034	Tonghai County in Yuxi Municipality (Central), etc.	Kazhuo language, Tibeto-Burman

Nu	0.03	Nujiang Lisu Autonomous Prefecture (North west), etc.	Nusu, the Anong and the Rouruo languages, Tibeto-Burman
Jinuo	0.027	Xishuangbanna Dai Autonomous Prefecture (Southwest), etc.	Jinuo language, Tibeto-Burman
De'ang	0.021	Dehong Dai and Jingpho Autonomous Prefecture (West) and Lincang Municipality (Southwest), etc.	De'ang language, Mon-Khmer
Shui	0.019	Fuyuan County in Qujing Municipality (East), etc.	Mandarin Chinese
Manchu	0.013	Tonghai County in Yuxi Municipality (Central), etc.	Mandarin Chinese
Dulong (Dulong)	0.007426	GongshanDulong and Nu Autonomous County (Northwest)	Dulong language, Tibeto-Burman

Among the above 25 ethnic groups, Hui, Shui and Manchu use Mandarin Chinese as mother tongue, while the other 22 ethnic groups use 26 minority languages, which belong to 4 language families. There are 17 languages that belong to the Tibeto-Burman Family, such as the Yi language, the Bai language, the Hani language, the Lisu language, the Lahu language, the Naxi language, the Tibetan (Kham dialect), Jingpho (which use Jingpho and Zaiwa Languages), Mongolian (who use the Kazhuo language), Nu (which use Nusu, Anong and Rouruo languages), the Achang language, the Pumi language, the Jinuo languages and the Dulong language.

There are 3 languages under the Kam-Tai Family, i.e. the Dai, Zhuang and Bouyei languages, and the other 3 languages are affiliated with the Hmong-Mien Family Hmong language: Hmong language, Mien language, and Bunu language. Wa language, Blang language and De'ang language belong to the Mon-Khmer Family exclusively.

There are 14 ethnic groups in Yunnan that use 22 scripts. Yi people use 2 scripts, such as Yunnan standard Yi script and Liangshan standard Yi script. Dai ethnic group use 3 scripts, like Dai in Xishuangbanna, they use Xishuangbanna Dai Le script (Old Script) and standard Dai script (New Script), while Dai in Dewhong use Dehong Dai Na script. Hmong people use Sichuan Yunnan Guizhou sub dialect script, Northeast Yunnan Old Hmong script and Northeast

Yunnan standard Hmong script. Lisu use Old Lisu script (Fraser alphabet) and New Lisu alphabet. The Mien people use Mian Youmian writing system and Jinmen Mian writing system in different places. Jingpho use Jingpho script and Zaiwa script. The Tibetan people use their traditional Tibetan script and Naxi use Dongba pictographic writing system. The other ethnic groups, like Hani, Bai, Lahu, Wa, Zhuang, and Dulong, use alphabetic writing systems. Meanwhile, Yi, Hani, Dai, Hmong, Lisu, Lahu, Wa, Jingpho Zhuang, Mien, Tibetan, and Dulong 12 ethnic groups have the corresponding writing systems in the overseas.

2.2. Propaganda and promotion of spoken and written minority languages

The Provincial Office of Yunnan Minority Languages was established on June 21, 1956 by the provincial CCP committee. There are 42 staff members, who are from 18 ethnic groups (Han, Yi, Bai, Zhuang, Dai, Hani, Miao, Jingpho, Lisu, Naxi, Tibetan, Wa, Lahu, Mien, Hui, Manchu, Pumi, Dulong).

The principal responsibilities of the Office are: to put forward policy recommendations to promote the work of ethnic groups, ethnic minority legal system, to protect all ethnic minorities to use and develop their own language of the legitimate rights and interests; to formulate ethnic minority language development plan, to promote the application of ethnic minority language; to compile textbooks, books, ethnic minority certification, ethnic minority bilingual teaching guidance; to guide the application of ethnic minority language in radio, film, television, Internet, publication, literary and artistic creation, and to improve ethnic minority language translation services; etc.

2.2.1. Ethnic minority language broadcasting

Radio stations were set up in the early 1950s in the Yunnan Province, offering Dai and Jingpho language programmes. By the end of 2000, the province had 15 stations for 12 ethnic groups, carrying broadcasting programmes in 14 languages, covering the Dehong Dai, Xishuangbanna Dai and Lisu, Jingpho, Zaiwa, Blang, Tibetan, Lahu, Zhuang, Hmong, Mien, Yi, and Hani, including a provincial radio station; 8 Autonomous Prefectures radio stations; 13 county (city) level (radio stations), and a number of township (town) radio stations.

2.2.2. Ethnic minority television

In the 1990s, the Yunnan ethnic minority language TV first appeared in Mangshi, officially launched during the 1991 spring festival. Subsequently, the ethnic minority language TV has been developed to 12 ethnic groups with 14 languages: Dai (Dehong Dai and Xishuangbanna Dai), Lisu, Jingpho (including

the Jingpho language, the Zaiwa language), Lahu, Hani, Yi, Zhuang, Hmong, Mien, Tibetan, Wa, Bai, including a provincial TV station, eight Autonomous Prefectures radio and television stations, and one Autonomous Prefecture television dubbing centre. The staff of the ethnic minority language radio and television has grown to more than 200.

2.2.3. Ethnic minority newspapers

On January 1, 1955, the *Tuanjie Newspaper* of the Dehong Dai Autonomous Prefecture had Dai, Jingpho and Lisu scripts and Chinese version. In March 1957, the *Xishuangbanna Newspaper* had its Xishuangbanna Dai script version. Since October 11, 1983, the *Nujiang Newspaper* is published in Nujiang, and printed in both the Lisu new script and the old script. Since 1995 *Diqing Newspaper* is published in Diqing Tibetan. As a result, there are six newspapers with their ethnic minority script versions: the Dehong Dai script, the Xishuangbanna Dai script, the Jingpho script, the Zaiwa script, the Lisu script and Tibetan.

2.2.4. Ethnic minority films

Yunnan's ethnic minority language films began to be released in the 1950s. In the 1960s, Yunnan launched efforts to translate Chinese films into local ethnic minority languages. From 1982 to 1986, 4 Autonomous Prefectures and Lincang Municipality established 8 dubbing studios. There are 240 feature films and 106 educational films being translated into 12 ethnic minority languages. At present, the Yunnan Province has dubbed more than 3000 films for the Yi, Hani, Dai, Zhuang, Hmong, Wa, Mien, Tibetan, Lisu, Lahu, Naxi, Jingpho, Jinuo and Dulong – 14 ethnic groups and 17 ethnic minority languages.

2.2.5. Public Signs in ethnic minority script

Public signs in the Yunnan minority script first appeared in the 1950s. They are mainly in Dehong, Xishuangbanna, Nujiang, and Diqing Prefectures. Nowadays, some cities and counties in Chuxiong, Wenshan, Honghe Prefectures and Pu'er, Lincang, Yuxi Municipalities are also using local ethnic minority scripts in public signs. The Yunnan Province now has 12 ethnic groups with 16 ethnic minority script signs, and 7 ethnic minority scripts – Yi, Dai, Wa, Naxi, Lisu, Jingpho, Tibetan – are widely used.

2.2.6. Textbooks of ethnic minority script

The Provincial Department of Education has established an ethnic minority textbook compiling office, which is responsible for publishing the Dai,

Jingpho, Lahu, Wa and Hani minority language textbooks for primary schools. The ethnic minority textbooks are divided into 3 types, namely, textbook for literacy; textbook for compulsory education and textbook for technical secondary school.

By the end of 2010, Yunnan has translated and published more than 400 ethnic minority and Chinese bilingual textbooks for grade 1-6 and for grade 1 mathematics, and a preschool textbook for the Yi, Bai, Hani, Zhuang, Dai, Hmong, Lisu, Lahu, Wa, Naxi, Mien, Tibetan, Jingpho, Dulong – 14 ethnic groups (18 languages). The total output has reached 800,000 copies.

2.2.7. Ethnic minority language and Chinese bilingual education

Since 1982, Yunnan ethnic minority language departments cooperate closely with education departments to undertake bilingual education in Xishuangbanna and Dehong, Lincang, Pu'er, Wenshan, Honghe, Diqing, Dali with 10 ethnic groups (12 languages) – Yi, Wa, Lisu, Naxi, Bai, Dai, Lahu, Hani, Miao, Jingpho, Tibetan. By the end of 2009, the province had had 4167 schools in 88 counties among 16 Prefectures and Municipalities to carry out bilingual teaching for 14 ethnic groups with 18 ethnic minority languages. The number students of bilingual education has reached more than 200,000, and there are 11,311 bilingual teachers. In November 2011, 12 cities in Kunming municipality, Chuxiong and Honghe Prefectures started a new round of a bilingual teaching experiment in 32 schools for 14 ethnic groups with 18 ethnic minority languages. At present, relevant units and regions of Yunnan collaborate with SIL (Summer Institute of Linguistics) carrying out bilingual teaching experiment in Dali Bai Autonomous Prefecture and Xishuangbanna Dai Autonomous Prefecture.

3. The regulations of Yunnan province on the ethnic minority languages

In order to promote legislation of ethnic minority languages, the Provincial Office of Yunnan minority languages did a lot of work. In 1992 the Office undertook the drafting of the regulations of the Yunnan Province on the Ethnic Minority Languages, and the regulations (draft) were regarded as an important system of innovative legislative work.

In 2012, the regulations were accepted as a legislative plan in the provincial Congress and the provincial Government. On June 25, 2012, the regulations (draft) were provided to the 8th executive meeting of the provincial Government to consider for approval. On March 28, 2013, the second meeting of the Standing Committee of the 12th provincial Congress passed the regulations of

the Yunnan Province on the Ethnic Minority Languages (hereinafter referred to as “the regulations”), and came into force on May 1, 2013.

The regulations include 24 Articles. The main contents are as follows:

1. Propaganda and implementation of laws, regulations and policies of minority languages.
2. Protecting the rights of ethnic groups in the use of their own languages.
3. Supervision and inspection of the use of ethnic minority languages.
4. Guidance and promotion of minority language newspapers, radio and television broadcasts, and publications.
5. Safeguarding minority languages and minority languages as the media of traditional culture.
6. Promotion of the cooperation and exchange of the minority languages and the personnel training.
7. Radio and television media in provinces and autonomous regions shall launch minority language’s frequency, channel or column, and gradually increase the broadcast languages.
8. Provincial Committee for Ethnic Minority Affairs and the Institutions of Minority Spoken and written language should strengthen the construction of the database of minority language resources.
9. People’s courts at all levels and people’s procurators shall train and hire judges and prosecutors with a command of ethnic minority languages.

4. Concluding remarks

For over 6 decades, the Yunnan Province has been fully complying with the Constitution and the Law of the People’s Republic of China on Regional National Autonomy. It has carried out a great number of important works in publicizing and promotion of its ethnic minority languages. The Regulations of the Yunnan Province on the Ethnic Minority Languages have set a positive example and laid a good foundation for the other multiple minority language areas in China.

The situations in other Autonomous Regions and Prefectures are similar to the situation in Yunnan, so they should draw on the experience of Yunnan in the protection and practice of multilingualism.

The Provincial Office of Yunnan Minority Languages is currently carrying out the project of Database of the Minority Language Resources to record and

preserve its all ethnic languages. Surely they will face many challenges along the way, but once the database is completed as designed, other Autonomous Areas and the public in general will greatly benefit from it for the rich multilingualism it brings to cyberspace.

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6. *Education Law of the People's Republic of China* (Adopted at the 3rd session of the Eighth National People's Congress on March 18, 1995, promulgated by Order No.45 of the President of the People's Republic of China on March 18, 1995 and effective as of September 1, 1995).

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7. *Civil Procedure Law of the People's Republic of China* (Adopted at the 4th Session of the Seventh National People's Congress and promulgated by Order No. 44 of the President of the People's Republic of China on April 9, 1991).
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The EU's Language Policy over the Period 2005–2015. Analyzing the Increasingly Utilitarian Approach

1. Introduction

The motto *United in Diversity* was first adopted by the European Union in 2000 to express the common goal of the European project, which is to achieve unity of purpose through peace and prosperity in Europe while acknowledging and fostering the wealth of its different cultures, traditions and languages. To mark the 50th anniversary of the Treaty of Rome in 2007, this idea was reinforced with the motto *Together* to express the idea of different peoples working for common objectives and goals.

Languages occupy a central place in Europe's diversity. As proclaimed by the European Commission to refer to Europe's linguistic diversity, "the harmonious co-existence of many languages in Europe is a powerful symbol of the EU's aspiration to be united in diversity, one of the cornerstones of the European project"¹. Its linguistic diversity is what best defines our continent and, at the same time, expresses and reinforces our cultural identity. Languages are not only a means of communication. They also have embedded within them people's values, aspirations and hopes.

Despite its limited competence on language and culture – as educational and language policies are the responsibility of individual Member States – the Commission claims to be "committed to safeguarding this linguistic diversity and promoting the languages spoken in Europe"², which categorizes into three categories: the 24 official languages, some 60 to 80 regional or minority languages, 5 of which languages considered to have a "semi-official

¹ European Commission's website on languages. Available at: http://ec.europa.eu/languages/policy/linguistic-diversity/index_en.htm.

² *Europeans and Their Languages*. Eurobarometer 306 Directorate-General for Education and Culture, Directorate-General for Translation and Directorate-General for Interpretation and coordinated by Directorate-General for Communication.

status”, namely Catalan, Basque, Galician, Welsh and Scots Gaelic³, and non-autochthonous languages spoken by migrant communities in Europe. As indicated by the European Commission itself, this commitment is based “for reasons of cultural identity and social integration and cohesion, and because multilingual citizens are better placed to take advantage of the economic, educational and professional opportunities created by an integrated Europe. A mobile workforce is key to the competitiveness of the EU economy”⁴. It also highlights the importance of languages to define personal and collective identities and claims that languages “can serve as a bridge to other people and open access to other countries and cultures, promoting mutual understanding”. It also claims that “a successful multilingualism policy can strengthen the life chances of citizens: it may increase their employability, facilitate access to services and rights, and contribute to solidarity through enhanced intercultural dialogue and social cohesion.”

Despite the positive rhetoric on the importance of strengthening the continent’s linguistic diversity, the vast majority of the EU’s most recent political actions on multilingualism seem to go in the opposite direction: we have witnessed a decreasing political interest in multilingualism issues over the past few years, with the Commission going from having one entire portfolio on Multilingualism over the period 2007–2010 (Leonard Orban), to a Commissioner for Education, Culture, Multilingualism and Youth (Androulla Vassiliou, 2010–2014), to no portfolio on Multilingualism in the current Commission (Tibor Navracsics 2014–present). To the progressive elimination of the Multilingualism portfolio we must add the downsizing of the Commission’s Multilingualism Unit and the removal of the former unit dealing with Multilingualism Policy; Skills and Qualification Strategy from the Directorate-General on Education and Culture to the Directorate-General on Employment,⁵ expressing the new political intentions of linking language to the European economy.

³ *The Council of the EU has agreed that certain languages that are recognized by the Constitution of a Member State, even if they are not the country’s official EU language(s), can be used in formal EU meetings and EU documents. An agreement on the use of Basque, Catalan and Galician in documents has been concluded between the EU institutions and the Spanish government. The United Kingdom government has a similar agreement concerning the use of Welsh and Scottish Gaelic. In these cases, translations are provided by the government of the Member State concerned, as and when needed, at its own expense. Interpretation from (but not into) Basque, Catalan/Valencian/Balearic and Galician is provided upon request for certain Council formations with regional representatives, as well as in the plenary meetings of the Committee of the Regions and the European Economic and Social Committee. The cost of this interpretation is met by the Member State in question. The Welsh and Scottish authorities have a similar arrangement. These languages are often referred to as “semi-official” languages in EU jargon.*

⁴ *Op.cit.* 2.

⁵ *See Press Release of 10 September 2014, The Juncker Commission: A strong and experienced team standing for change, available at: http://europa.eu/rapid/press-release_IP-14-984_en.htm.*

This article seeks to trace the evolution of the European Language Policy over the past decade (2005–2015) and analyse the ideological intentions behind the EU rhetoric on multilingualism and linguistic diversity. It argues that while the official discursive lines continues to portray linguistic diversity as one of Europe’s greatest assets, the political actions point at an increasing commodification of languages, conceptualized and represented as a set of bounded, marketable communicative skills that can be advertised, bought and sold. The analysis aims to show how the current EU dominant language ideology – and consequently (language) political action – is based on standard language ideology regarding the functional, market-oriented importance of language skills for growth, jobs, labour mobility and competitiveness, recontextualizing discursive elements from a neo-liberal skills rhetoric, devoid of their symbolic and social cohesion functions, the “tie-securing function of language” (Kraus & Kazlauskaitė-Gürbüz 2014). The commodification of language has been singled out as one of the semiotic components of globalization (see Fairclough 2002, 2006; Heller 2003). In the current economic crisis scenario, I argue that this commodification has been remarkably intensified by the European Union, leaving non-hegemonic languages, including small-state, regional and minority languages behind.

To carry out this analysis, I have analysed the policy initiatives (recommendations, communications, resolutions, reports, and press releases) from the main EU institutions (European Commission, European Parliament and Council of the EU) over the period 2005–2015 and have conducted interviews with education officials from the European Commission (Multilingualism Unit and the Cabinet of Commissioner for Culture and Education), Members of the European Parliament (Co-chairs of the Intergroup for Traditional Minorities, National Communities and Languages) and various relevant stakeholders at EU level such as government representatives of regional and minority languages.

The analysis has been carried out using Thompson’s Depth Hermeneutics Methodological Framework (1984), developed in Discourse Analysis, which allows us to provide a three-layer analysis: the **socio-historical analysis**, which looks at the historical, political, economic and social context in which discourses and practices are produced; **the formal and discursive aspects** of the analysis – which looks at the rhetorical devices and chains of reasoning used as legitimating strategies – and the interpretative analysis, closely intertwined with the previous two, as it connects the second phase with the first and allows us to unveil how certain forms of discourse are implicated in the sustenance and maintenance of particular ideologies. This framework has allowed me to capture the modulation, reproduction, opposition and

contestation of discourses on language and how these are related to political strategies, ideologies and practices used to adopt a market-oriented approach to Europe's linguistic diversity.

This research ultimately points to the rapidly changing context in which European (language) policy is currently immersed and highlights the critical situation in which the EU finds itself, precipitated by the social, political and economic context. To capture the dynamic evolution of such changes and how they affect the current EU language policy choice, we have used *language ideological debates* (Blommaert 1999) as a conceptual framework. In the field of politics, discursive struggle and contestation are generically captured under the label of debate. The political process develops through a series of exchanges involving a variety of actors: politicians and policy-makers, academic and non-academic experts, non-governmental organizations and media. Debates are, political-ideologically, the points of entrance of all these stakeholders into policy making: they are (seen as) the historical moments during which the polity gets involved in shaping policy (Blommaert 1999: 8). For our purpose, it is crucial to note that this shaping process is mainly a process of shaping textual tools captured under the terms of public opinion: interpretation of policies, analysis of policy statements in the field of language and their close link to the political, social and economic context in which these practices are embedded.

Following Thompson's Framework, the analysis has been carried out in two main parts. Following this introduction, the second part – the socio-historical analysis – will be aimed at highlighting both the EU's (limited) policy competences on education, culture and language policies, and the rapidly-changing political and economic scenario in the EU, a necessary analysis to help explain the increasing commodification of languages in the EU's language policy. The third part will focus on the rhetorical devices and chains of reasoning used to shape an increasingly utilitarian cognitive framework of the European language debates, which is becoming the *dominant habitus*, using Bordieu's classical notion (1991), that is, the way the EU thinks, talks and behaves on language, which might have important consequences on the way Member States think, talk and behave on language.

2. Analysing the EU legal framework: limited competences to shape policies but not discourse

In the field of languages, education and culture, the EU Treaties give the European Union the task of supporting action by the Member States aimed at developing the European dimension in education, particularly through the

teaching and dissemination of the languages of the Member States (Article 165(2), while fully respecting cultural and linguistic diversity (Article 165(1).

Linguistic diversity is therefore embedded as one of the elements within the legal framework of the EU. The Charter of Fundamental Rights of the EU, adopted in 2000, which the Treaty of Lisbon makes legally binding, also places an obligation on the Union to respect linguistic diversity (Article 22) and prohibits discrimination on grounds of language (Article 21). Respect for linguistic diversity is therefore a fundamental value of the EU. Despite being embedded as one of the key values of the European project, it should be said that the EU holds relatively limited competences in this field. The principal responsibility for maintaining or enhancing linguistic diversity and multilingualism remains with the Member States.

The legal foundations for the language regime of current European Union were laid down in the Council's Regulation No 1 of 15 April 1958, which states that "[t]he official languages and the working languages of the institutions of the Community shall be Dutch, French, German and Italian" (Article 1) and that "regulations and other documents of general application shall be drafted in the four languages" (Article 4) (Council of the European Economic Community 1958: 385). It also provided for persons or Member States to choose their preferred language, out of the four official and working languages, in communication with the Community institutions (Article 2) (Council of the European Economic Community 1958: 385). The 1/1958 Council Regulation has been modified to include the official languages of the new Member States, with the exception of Irish, which acquired the status of official language only in 2007 with a temporary derogation.⁶

Along with the level, we also find another level of officialdom only applied to five languages. The European institutions reached some kind of agreement at the request of the Spanish (2005–2006) and UK governments (2008–2009) on granting specific language provisions to Catalan, Basque, Galician, Welsh and Scottish Gaelic⁷. In July 2005 the EU Council created a new category of languages, next to the existing category of "official languages" and called these "co-official" languages. This was done at the request of the Spanish Government, who wanted to include Catalan, Basque and Galician in EU

⁶ See Council Regulation (EC) No 920/2005 of 13 June 2005 (OJ L 156, 18.6.2005, p. 3) stating that "the institutions of the European Union shall not be bound by the obligation to draft all acts in Irish and to publish them in that language in the Official Journal of the European Union", except for regulations adopted jointly by the European Parliament and the Council. This derogation has been extended for a period of five years (until 31 December 2016) by Council Regulation (EU) No 1257/2010 (OJ L 343, 29.12.2010, p. 5).

⁷ For more information please visit http://ec.europa.eu/unitedkingdom/about_us/office_in_wales/welsh_language_en.htm.

affairs. Co-official languages can receive certain services in the EU, such as for example interpretation during meetings, translation of final legislation or the possibility for citizens to correspond with EU institutions in the language.

Since 2005, the Welsh Assembly Government worked hard on an initiative to include Welsh in EU affairs as a co-official language. Through the close collaboration between the UK Government and the Welsh Assembly Government this was achieved in the EU Council during July 2008. Following this, a similar agreement was signed with the EU Committee of the Regions in 2008 and a more limited agreement has now been signed with the European Commission on 9 July 2009.

In both cases, translations are provided by the government of the Member State concerned, as and when needed and at its own expense. In practical terms, these language communities have often complained about the non-compliance with these norms as well as the fact that it is the language communities themselves that must cover the translation costs, and not the State.

To this layer in terms of official status of language we must add a third one, Europe's regional, minority or artificial languages. Defined by the Council of Europe as "languages traditionally used by part of the population of a state, but which are not official state language dialects, migrant languages or artificially created languages"⁸, these languages have no legal recognition at EU level. As acknowledged by the European Commission itself, "Nearly all regional and minority language communities face difficulties in ensuring the survival and development of their languages" and while always reminding that the Commission has no competences on language issues, including minority languages, it claims to work with national governments and interest groups to promote their teaching and learning, thereby helping them survive".

As succinctly summarized by Kraus & Kazlauskaite-Gürbüz (2014), one of the first elements derived from the legal framework of the EU's language policy is that the imperative of maintaining linguistic equality and protecting linguistic diversity in the EU is, first and foremost, designed to uphold the diverse linguistic identities of the Member States rather than those of its citizens, reproducing what Blommaert and Verschueren have called "the dogma of homogeneity" (1998), that is, the idea of linguistic diversity as the sum of one nation-one language, which is reproduced at EU level.

⁸ *Definition provided by the Council of Europe and shared internationally as the standard definition for minority languages.*

3. Framing the EU language debates: towards a utilitarian approach

The different degrees in the official status along with the peculiar policy and discursive frame shaped and sustained over the past 10 years have had direct repercussions in the way the EU's language policy has been shaped during this period. As we shall see in the lines that follow, the dominant language ideology that has been shaped during the period 2005–2015 has been increasingly based on the functional importance of language skills to increase competitiveness, boost the economy for growth and jobs and to boost people's employability through (majority) language learning. It is the ideologized representation of language policy from an almost exclusively "language skills" perspective that allows for the recontextualization within the language policy domain of a hegemonic neo-liberal economic discourse of skills for the economy. In so doing, the dominant policy discourse on languages in the EU has served to mediate changes in social practices within the languages domain as part of a neo-liberal restructuring of the European language policy. A 'language ideology' perspective (Kroskrity 2000; Woolard 1998) is useful for understanding the relation between language policy in the EU, which, variously articulated, underlie the public and policy discourses surrounding the vast field of language.

The first-ever Communication outlining the multilingualism policy objectives of the European Commission in its Multilingualism Policy – A New Framework Strategy for Multilingualism⁹ – in 2005 can be considered as the turning point in the utilitarian, market-oriented approach. While discursively reaffirming the Commission's commitment to multilingualism, the Framework emphasized three elements that point at the instrumentalization of languages as commodities – speaking in economic terms – that are useful for the economy: 1) encouragement of language learning and linguistic diversity in society; 2) promotion of a healthy multilingual economy, and 3) equality of access for EU citizens to EU legislation, procedures and information in all official EU languages.

When referring to the (1) first objective, the encouragement of language learning and linguistic diversity in society, the Strategy constantly refers to the Mother Tongue+2 formula, a concept approved in March 2002 by the Heads of State or Government of the European Union whose "long-term objective is to increase individual multilingualism until every citizen has practical skills in at least two languages in addition to his or her mother tongue".¹⁰ The discursive insistence of the 1+2 formula – systematically observed in the EU rhetoric

⁹ COM(2005) 596 final.

¹⁰ Barcelona European Council, 15 and 16 March 2002, Presidency Conclusions, part I, 43.1.

on language learning – discursively replicates the dogma of homogeneity, in which the one nation-one language state dogma is reproduced at personal level, considering monolingualism as the norm and learning two foreign languages as the goal. This dominant ideology – reproduced also in the current Erasmus+ Programmes (the new 2014–2020 programme for Education, Training, Youth, Sport which includes languages) – neglects the fact that an increasing number of European citizens – speakers of regional/minority languages, migrants, etc., often have more than 1 first language.

The second objective, the promotion of a healthy multilingual economy focuses entirely on the language-economy binomial, entrenching the utilitarian logic to the EU's language policy, which is embedded in the broader policy of the 2010 Lisbon Strategy and the Integrated Guidelines for Growth and Jobs (2005–2008)¹¹ which sought to make the EU “the most dynamic and competitive knowledge-based economy in the world” by 2010 and identified “the improvement of language skills” as a priority towards achieving these objectives.

As for the third objective, equality of access for EU citizens to EU legislation, procedures and information in all official EU languages, the Framework strategy adopts a restrictive definition of multilingualism when considering multilingualism as the sum of one language-one nation by stating that “Regulation adopted by the Council¹² therefore defines the European Community as a multilingual entity, stipulates that legislation must be published in the official languages and requires its institutions to deal with citizens in the official languages of their choice. In the interests of equity and transparency, the Union maintains a substantial online public service giving access to the law and jurisprudence of the Union; this is the EUR-Lex service, which is fully multilingual and covers all 20 official languages.¹³

As noted (by Kraus & Kazlauskaitė-Gürbüz, 2014), “The long-standing discursive insistence on the cultural value of diversity in the EU's official discourse gets outweighed by utility-based approach”.

This ideological approach on the EU's language policy developed a powerful momentum in 2007 with the creation of a portfolio devoted entirely to Multilingualism (2007–2010), which was given higher visibility, and political importance. The almost-exclusive focus on the economic aspect of the EU's language policy intentions became explicit during the presentation of the programme to the European Parliament: “Politically, I will steer the

¹¹ COM (2005) 24 of 02 02 2005.

¹² No 1 of 1958, determining the languages to be used by the European Economic Community.

¹³ Available at <http://europa.eu.int/eur-lex/lex>.

Commission's work on bringing an active multilingualism policy into a variety of policies which are the key to the functioning of the EU and the internal market: culture, education and competitiveness." While insisting on the conceptualization of Europe's linguistic and cultural diversity as a source of richness, the focus of the programme revolved mainly around the strategic importance of languages as an asset for the European economy: "multilingualism can give any industry a competitive advantage if it helps them to tap local markets and create new products which also cater for multilingualism," and gave a special role to the learning of big hegemonic languages for trade and business: "our efforts to support multilingualism are not limited to EU languages; we are also encouraging training in Chinese, Japanese, Arabic, Turkish and Russian."

These political intentions translated into concrete, tangible results: the presentation of the ELAN report "Effects on the European Economy of Shortages of Foreign Language Skills in Enterprise" in 2007, whose main goal was "to provide the Commission and decision-takers in Member States with practical information and analysis of the use of language skills by SMEs and the impact on business performance"¹⁴. The creation of the Business Forum on Multilingualism in 2007, aimed at *exploring how language skills can have an impact on trade and jobs in the European Union*, which issued a series of Recommendations¹⁵ (2009) and a subsequent report (2009–2011)¹⁶, encouraging the Commission to embed the business approach on language in its Europe 2020 strategy. The business forum resulted in a series of concrete policy initiatives focused exclusively on the economic performance of Europe as a result of language competence, namely, the CELAN Project on **Language Strategies for Competitiveness and Employability** (2010), the PIMLICO initiative on language management strategies and best practices (2011), or the Language Guide for European business (2011).

To this we must add the policy report *Languages for Jobs. Providing multilingual communication skills for the labour market*, the result of the thematic expert group "Languages for Jobs" set up by the European Commission in 2010 with the purpose of producing policy recommendations which can bring about a better match between demand and supply of language and communication skills on the European labour market"¹⁷.

¹⁴ European Commission's Press Release MEMO/07/79 *Effects on the European Economy of Shortages of Foreign Language Skills in Enterprise*. 23/02/2007.

¹⁵ *Languages Mean Business. Recommendations from the Business Forum on Multilingualism*.

¹⁶ *Business Forum on Multilingualism. Report for the period 2009–2011*.

¹⁷ *Languages for Jobs. Providing multilingual communication skills for the labour market. Report from the thematic working group "Languages for Jobs" European Strategic Framework for Education and Training*. European Commission, 2010.

The Council of the European Union, the EU body representing the Member States, has also adopted the Commission's rhetoric on the commodification of languages for market and job purposes: in the Council Conclusions of 19 May 2006, and the Council conclusions of November 2006 on the European Indicator of Language Competence¹⁸, which reaffirmed that "foreign language skills are a prerequisite for a mobile workforce and contribute to the competitiveness of the European Union economy". These ideas were further supported in the subsequent May 2008 Council conclusions on Multilingualism, the Council Resolution of 21 November on a European Strategy for Multilingualism and the May 2014 Council Conclusions on Multilingualism and the Development of Language Competences, to name the most relevant decisions taken by the Council in the field of multilingualism.

Despite the reiterative rhetorical insistence on linguistic diversity as part and parcel of the European identity; as a shared heritage, a wealth, a challenge and an asset for Europe – positive rhetorical devices systematically appeared in the debates – the dominant frame that has been relentlessly shaped and sustained an economic-oriented, competitive-based approach on language skills and competence.

This dominant frame has been further entrenched in the new Commission (2014–present). The new Commissioner for Education, Culture, Youth and Sports, Tibor Navracsics has no specific mandate for multilingualism; the former unit dealing with Multilingualism Policy, Skills and Qualification Strategy has been transferred from the Directorate-General on Education and Culture to the current Directorate-General on Employment and one of the latest EU flagship initiatives, the European Digital Single Market, has not considered Europe's multilingual reality, sparking heated reactions¹⁹ across a wide range of stakeholders – from academia to lesser-used language representatives – as the Digital Single Market prioritizes the big hegemonic languages, namely English, with no mention whatsoever of Europe's linguistic reality.

4. Voices of opposition and contestation

The dominant ideology being currently shaped around the marketable value of languages – especially the big economically-profitable languages – and the economic incentives of language promotion on the basis of economic growth, jobs and a competitive and mobile labour market has been met with fierce

¹⁸ Available at OJ C 172, 25.7.2006, p. 1.

¹⁹ See the website created for this purpose <http://www.multilingualeurope.eu/>.

contestation from a variety of stakeholders at a European level but mainly by regional, minority and lesser-used language communities.

While it is true that the Council of Regions have repeatedly insisted on the “need to promote linguistic diversity, which includes the historical linguistic minorities”, calling on the Commission and the Council to “take more of an account of the need for a specific policy on linguistic minorities that is adequately funded and underpinned by a firmer legal basis”,²⁰ it has been the European Parliament which has attempted to provide a wider approach to languages, through numerous resolutions and reports over the past decades. Especially relevant is the report *Multilingualism: Between Policy Objectives and Implementation*, published in 2008, which had as a primary goal to assess the language policy developed by Member States and other stakeholders of the European Union over the period 2004 to 2008. The conclusions already noticed the increasing utilitarianism given the EU language policy. While noting that “there is a lot of interest, support and demand for promoting linguistic diversity, preserving minority languages”, it highlights that “Multilingualism and linguistic diversity are sometimes conflicting policy agendas. Language learning policy has tended to be influenced by “harder” priorities like economic competitiveness and labour market mobility, and linguistic diversity policies by “softer” issues like inclusion and human rights. Multilingualism policy has been more highly prioritized than linguistic diversity policy in terms of concrete actions.”

This idea was further highlighted by the Parliament report “Endangered Languages and Linguistic Diversity”²¹, published in 2013, and by the current Parliament’s Intergroup for Traditional Minorities, National Communities and Languages, created in December 2014 with the goal of supporting and giving greater visibility to Europe’s lesser-used languages.

Of particular relevance are the voices of criticism raised by the European Network for Linguistic Diversity (NPLD), a pan-European network comprising Constitutional, Regional and Small-state Languages (CRSS) whose main goal is to raise awareness of the need to provide a stronger support to the lesser used languages, which in an open, public letter addressed to the European Commission overtly expressed its “concern on the utilitarian, market-oriented approach to the languages of Europe, which prioritize big, hegemonic languages and will leave a remarkable number of lesser-used

²⁰ *Opinion of the Committee of the Regions on protecting and developing historical linguistic minorities under the Lisbon Treaty, September 2, 2011.*

²¹ *European Parliament, Directorate General for Internal Policies. Policy Department B: Structural and Cohesion Policies, 2013.*

languages, small-state, regional or minority languages, aside". This concern has been replicated by a number of other relevant stakeholders at a European level, such as the Civil Society Platform on Multilingualism, and the Poliglotti Multilingualism Expert Group, among many others.

5. Concluding remarks

This paper has traced the evolution of the European Union's language policy over the past 10 years and has examined the discursive process through which elements from a neo-liberal skills discourse have been incorporated progressively within the EU's discourse on language. This discourse has become the dominant representation and the dominant cognitive frame of language within the language policy domain of the European Union and has played (and is currently playing) a pivotal role in the structuring of discourse, political and social practices surrounding language policy. The analysis has supplemented the existing literature on language policy in a way that confirms the tensions between the cultural (linguistic diversity) and utilitarian (multilingualism) dimension of the EU's language policy, overtly prioritizing the functional importance of language ability for the EU's competitiveness and economic growth. It is the ideologized representation of language within such a cognitive framework that allows for the recontextualization within the language policy domain of a hegemonic neo-liberal discourse based on the economy.

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Indian Languages in Cyberspace: An Overview

The paper is aimed at providing a bird's-eyeview of the work being carried out in India to place Indian languages in cyberspace.

India is a multilingual and multicultural country. Multilinguality and multiculturalism are being sustained and promoted over thousands of years in Indian society without any crafted mechanism. There was not a single incident in the ancient Indian history where one language/culture tried to dominate others. This has really contributed to the sustainable development and economic growth of Indian society right from the start of historical times. This once again reminds us of the significance of protecting multilinguality in the world by enhancing language use in all emerging domains by implementing new technology. This could be one of the means to arrest any further linguistic erosion. Moreover, the Indian experience proves that multilingualism is not a hurdle for development (both economic and spiritual) of any society. The recent studies in the UK and the USA reveal economic loss that these countries are registering for being monolingual and not actively promoting multilingualism.

As of now, there are 24 constitutionally approved languages which are spoken in different states of India. There are also 1,650 dialects spoken by different communities. All the languages have well-developed literature. According to Prof. Hogumi Tanaka, Hindi stands after Chinese in the ranking of mother tongue based population.

Although India started its long journey to place languages in cyberspace in the 1970s, a rapid growth in this direction has been observed since the 1990s. The Government launched a programme on TDIL (Technology Development of Indian Languages) under which a number of projects were supported for the development of Machine Translation (MT) systems for Indian languages, development of Corpora, OCR, Text-to-Speech systems, etc. Later India became a voting member of the UNICODE consortium. As Vikas observed (2001: 1), "In the wake of growing popularity of Internet, activities concerning e-content creation, IT localization, on-line gisting and summarization, e-learning, cross-lingual information retrieval are being promoted to ensure information access to cyberspace in Indian languages. Now, we can say that the

goals put forward by TDIL have been achieved and currently the research on placing Indian languages in cyberspace is moving in the direction of improving accuracy, speed, converting the MT system into a product and also designing the standard Roman transliteration scheme for Indian scripts. For example, the bidirectional MT systems developed under the Indian languages MT (ILMT) project of Telugu-Hindi and Tamil-Telugu have now taken up for enhancement quality in terms of comprehensibility. The research is in process to remove mismatches and to expand the size of dictionary to 35k synsets. So as to expand annotated data to reach high accuracy in modules, an additional 200k annotated data is being used. A full swing of research is going on restructuring and rewriting code to improve modularity and module performance (speed) for each language pair (Telugu-Tamil, Tamil-Malayalam, etc.), the potential users are being identified. Press Trust of India (PTI), Punjab Government, Uttar Pradesh Government, local languages newspapers, etc. are identified as potential users.”

Another attempt to place Indian languages in cyberspace can be viewed as developing the MT system for a selected user organization. A domain dictionary for the organization, i.e. the lexemes that are being used in the organization, is being developed.

A pairing engine is also being proposed for the full sentence parsers for various Indian languages. It is used for training on 50k words annotated corpora. It should be noted that the Word Sense Disambiguation (WSD) engine is trained for each of the chosen languages and language specific WSD tools are developed. It was also decided to develop a WSD module for Hindi as it would have an impact on nine systems.

As spelling errors and spelling variations affect the quality of the overall system, development of specific preprocessors using a common engine is also in pipeline. A MWE dictionary of 5k entries would also be developed for all nine language pairs.

It should be mentioned that a POS tagger and chunker for each identified Indian languages has already been developed and the POS taggers for most systems have reached an accuracy of 94–95%. The accuracy of chunkers for various languages ranges between 85–95%.

Morph Analysers and Morph Generators for identified Indian languages have been developed with high level of accuracy.

Multidirectional and bidirectional synsets for a given language pair are developed. The size of the dictionary is further enhanced to 30k synset entries

for Telugu, Tamil and Bengali and 25k for Kannada and Malayalam. Additional synsets of 20k for Hindi, Urdu, Punjabi and Bengali will also be acquired.

Though the Indian languages are structurally similar, rules will have to be formed to capture the differences at some structural levels. More rules will be added to the grammars as it will polish further to give better quality of structural mapping.

A project on Indian languages Translation Memory Technology is also planned in collaboration with University College of London (UCL). I am the Coordinator from India. We have initially taken up the Telugu and Kannada languages to develop Translation Memory.

The Shallow Parser Tools for Indian Languages (SPTIL) is aimed at building Shallow Parser Tools which are essential for Indian language technology development. It includes Morphological Analyser (MA), Parts of Speech (PoS) tagger and a chunker. It may be observed that Indian languages are morphologically rich and hence Morphological Analyser (MA) is considered as an indispensable tool for language technology development. The data required to develop Shallow Parser Tools (SPT) will be extracted from corpora.

Recently, the Centre for Development of Advance Computing, Bangalore, hit a milestone in putting Indian languages in cyberspace. It has developed fonts and software tools in six languages and is thus completing the release in all 22 official Indian languages. Therefore, it is a significant step towards increasing Indian language content on the Internet. Packages in Bangla, Konkani, Kashmiri, Sindhi and Santali along with 16 other are now available free for download.

The Government of India has just taken up a mega project called Digital India to ensure online government services access to citizens to reduce paperwork. It has three components, namely (i) creation of digital infrastructure, (ii) delivering services digitally, and (iii) digital literacy. The project is due for completion by 2019.

This multimillion dollar project launched last week has an enormous significance for Indian languages, especially, using enhanced technology to place in cyberspace. Most of public services are already made on-line in Indian languages. Digital libraries have come up in many places. Recently, email facility in some of the Indian languages has been started. All this tells us that the movement to place Indian languages in cyberspace is gaining momentum. The Government of India and local governments are fully supporting the endeavour.

It is not out of place to mention the SWAYAM programme of the Indian Government. This programme is aimed at developing e-content at all levels of education (primary, secondary and higher) on the MOOCs platform. Serious thinking is going on among academicians and policymakers to offer some of the on-line courses in vernacular Indian languages to start with Hindi. However, the above mentioned efforts and programmes (Projects) can produce only a limited effect to place Indian languages on cyberspace. Much more work has to be done as new technologies are emerging and also there is an increasing demand from the society for the various usages of these technologies

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Language: A Key to a Relevant Cyberspace

Cyberspace cannot be relevant to your life unless you have the capabilities, incentives, and opportunities to leverage it and language is a cross-cutting issue.

For the sake of context, “How many will not use the Internet?” According to McKinsey and Co. over 4 billion people will NOT connect to the Internet in 2015, that’s almost 60% of the world’s population. But why?

In their whitepaper, entitled *Offline and Falling Behind: Barriers to Internet Adoption*²², McKinsey and Co. present four index categories: Incentives, Low Incomes and Affordability, User Capability, and Infrastructure. In the *2014 State of Global Connectivity Report*²³ published by Facebook’s Internet.org initiative they use three categories: Infrastructure, Affordability, and Relevance.

It seems clear from these and other studies that Cyberspace cannot be relevant to your life unless you have the capabilities, incentives, and opportunities to leverage it. However, when people think about the digital divide, a great deal of attention is directed at issues of connectivity and affordability. But when we look at the digital divide through the lens of multilingualism we see the impact of Language in the areas of Infrastructure, Incentives, User Capability, and Relevance.

Language is the foundation for relevance

From a language perspective we can divide it into the categories of infrastructure, user capability, and incentives. Language Infrastructure includes things like scripts, keyboards, dictionaries, and phrase-level tools that enable grammar and spelling correction features. In terms of User Capability we see that both language and digital literacy are required, and we can imagine adding information literacy to this list as well. When we consider Incentives there has to be content in the language and the hope for

²² http://www.mckinsey.com/insights/high_tech_telecoms_internet/offline_and_falling_behind_barriers_to_internet_adoption.

²³ <http://newsroom.fb.com/news/2015/02/the-state-of-global-connectivity/>.

meaningful social interaction. It's more than just the presence of Wikipedia pages, people have to be able to message each other in their languages.

As you are likely to see even now, the issues of language in Cyberspace are intertwined and multifaceted. I was given a rare glimpse into this interconnection when my father suffered a stroke. Before the stroke he had high levels of language, digital, and information literacy. This literacy enabled him to use computing and the Internet in meaningful ways. However, after the stroke affected his language, he could still read and speak but his digital literacy was profoundly affected, requiring him to retrain in order to attain a reasonable level of digital literacy.

Incentives	meaningful content	meaningful interaction
User Capability	language literacy	digital literacy
Infrastructure	keyboards, scripts, dictionaries, phrase-level tools	

Let's dig into these categories for a minute to see what it will take to enhance the level of support for multilingualism in Cyberspace. According to Ethnologue²⁴, there are over 7,100 living languages in the world. But according to Andras Kornai's paper entitled *Digital Language Death*²⁵, less than 180 of them have the necessary level of digital vitality.

A look at the 4.2 billion people who will NOT use the Internet in 2015 reveals that 28% are possibly illiterate. And while there is no global source of digital literacy data a conservative estimate is that at least 1 billion people in the offline population are digitally illiterate. It's probably a much bigger number than that.

In their analysis Facebook used Wikipedia as a proxy for the presence of meaningful content on the Internet and found that only 53% of the world's population are likely to have sufficient relevant content. If we use Indigenous

²⁴ <http://www.ethnologue.com>.

²⁵ <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0077056#s4>.

Tweets as a proxy for the use of marginalized languages for social interaction we find just 176 marginalized languages used on Twitter.

So what can be done? How can we enable languages to survive in the digital realm? Actually, this is an area where SIL has several relevant capabilities. Through our Non-Roman Script Initiative²⁶ we provide assistance, research, and development of digital writing systems, including fonts and keyboards. We also provide ScriptSource.org²⁷ as a way of facilitating world-wide collaboration on keyboards and scripts; as well as promoting the use of the Open Font License. Our Dictionary and Lexicography Services²⁸ help language communities rapidly develop word lists that can form the basis of dictionaries. One of the questions we're considering is what if we added a Digital Vitality classification to languages in the Ethnologue.

In terms of support for language literacy²⁹ SIL has been working with communities, governments, NGOs, and local institutions to develop effective literacy and multilingual education programmes for 80 years. The current thinking is that about a dozen reading books are required at each reading level in order to develop healthy levels of literacy. This means that each language needs between 50 and 500 books to support an effective literacy programme. Unfortunately most languages have very few if any reading books. A recent innovation in this regard is the Bloom software and Library³⁰. Bloom was designed to help those who have never seen a computer to be able to translate reading books into their language after just six hours of computer training. Bloom Library contains a growing collection of template books and art work that enables convenient and rapid creation of reading books.

This framework can be used for the development of questions that could guide innovation and collaboration to enable a multilingual and relevant Cyberspace. What if everyone had the capabilities, incentives, and opportunities to leverage Cyberspace in their lives? How might we enable this to happen? How might we enable “digital ascent” for languages? How might we enable literacy? How might we enable the development of meaningful content and enable social interactions?

If we are to help people leverage Cyberspace in meaningful ways people, languages, and Cyberspace itself must be developed. If we can pose the right questions to guide our efforts together we can address these intertwined issues.

²⁶ <http://scripts.sil.org/>.

²⁷ <http://scriptsource.org/>.

²⁸ <http://www.sil.org/dictionaries-lexicography>.

²⁹ <http://www.sil.org/literacy-education>.

³⁰ <http://bloomlibrary.org/>.

Culture(s), Sustainability and Well-Being

Sustainable development

Sustainable development is based on three pillars: ecology, economy and society. This trio is sometimes described as the three P's of people-profit-planet. The World Bank provides a tentative list of needs and objectives per each of the pillars:

- Environment: biodiversity, natural resources, carrying capacity, ecosystem integrity, clean air and water.
- Economic: services, household needs, industrial growth, agricultural growth, efficient use of labor.
- Social: equity, participation, empowerment, social mobility, cultural preservation.

(Source: <http://www.worldbank.org/depweb/english/sd.html>)

The World Bank notices that “Many of these objectives may seem to conflict with each other in the short term. For example, industrial growth might conflict with preserving natural resources. Yet, in the long term, responsible use of natural resources now will help ensure that there are resources available for sustained industrial growth far into the future.” The balance between the three pillars is not an easy task, to say the least. So far attempts to keep these three dimensions in balance and to make sustainability a ‘win-win-win’ solution for all three, seems to remain unsatisfactory or in many people’s eyes a grail to be sought but never found.

Culture and sustainability

One of the solutions to this imbalance is the addition of a fourth pillar, that of culture. UNESCO has already acknowledged the importance of culture for sustainable development in its Hangzhou Declaration of 2013. The question is how to integrate culture into sustainable development. European scholars suggest three ‘roles’ of culture in sustainable development:

First, culture can have a supportive and self-promoting role (characterized as ‘culture *in* sustainable development’). This expands conventional sustainable development discourse by adding culture as a self-standing 4th pillar alongside separate ecological, social, and economic considerations and imperatives.

Second, a role which offers culture as a more influential force that can operate beyond itself (‘culture *for* sustainable development’). This role moves culture into a framing, contextualizing and mediating mode that can balance all three of the existing pillars and guide sustainable development between economic, social, and ecological pressures and needs.

Third, a more fundamental role (‘culture *as* sustainable development’) which sees culture as the necessary overall foundation and structure for achieving the aims of sustainable development. (Source: <http://www.culturalsustainability.eu/>.)

All three roles are founded on the assumption that culture is located at the root of all human decisions and actions and can serve as a new paradigm in sustainable development thinking. Consequently culture and sustainability are mutually intertwined; the distinctions between the economic, social and environmental dimensions of sustainability thus begin to fade.

A significant portion of the discussion on sustainable development is devoted to the assessment of actions’ impact on environment, society, economy and culture. Many assessment methods tend to quantification, and specifically to “monetization,” that is the expression of an impact in Dollar or Euro terms. This practice has been expanded to earlier stages of projects’ pre-evaluation and selection. In these stages, the needs to be answered in a project are “translated” into money, in order to sort and prioritize actions (e.g., the economic-oriented theory of “ecosystem services”).

The problem is that not all needs can be translated into money. Who can attach a fixed monetary valuation to a sense of place, heritage, or cultural identities (to name a few)? This problem became more acute when culture was added, as most of its needs, actions and impacts cannot be “monetized.” Therefore, instead of attempting to “monetize” needs, etc., I suggest assessing them in light of their qualitative contribution to the “meta-value” of well-being. I hope that this psycho-philosophical direction can complement the economic discussion as well as provide some fruitful research directions.

In this paper I shall link the meaning of needs in sustainability and in psychology. Then I shall provide a brief overview of the notion of well-being in psychology and philosophy and explore its relations to cultural sustainability. In the last part of the paper I shall examine the case of language as a cultural participant in sustainable development and how it contributes to well-being.

Needs

The sustainability discourse is based on an analysis of needs. For example, an investigation of an environmental conflict between fishermen, otters and conservation managers consists of an analysis of a broad range of needs of these three stakeholders (Jolibert et al. 2011), humans and non-humans alike. The analysis relies on the work of Manfred Max-Neef (1989) who composed a list of fundamental human needs that includes subsistence, protection, affection, understanding, participation, leisure, creation, identity and freedom. The needs in Max-Neef's list are various; it is a mixture of physical (such as subsistence) and psychological needs (like freedom). Interestingly all needs are treated in the same manner, and no classification is made. It does not take into account that the need for subsistence (like water) may require a different treatment than the need for affection, even if both are necessary for survival.³¹

Deep ecologist Ronnie Hawkins makes a distinction between physical and psychological needs. He rejects the view that reduces everything, including humans, to the operation of causal laws and explains: "These laws may work just fine in accounting for the movements of planets and billiard balls, where movement is simply a response to an external force, but it is woefully inadequate for dealing with self-propelled living beings" (2014: 219). Since physical needs should be treated differently from the psychological ones, their evaluation might be different as well. It does not mean there is a hierarchy and a certain type is more important than the other. The classification reflects the different responses, handlings and qualification of each type of needs.

In order to understand the psychological needs and examine how they can play a major role in sustainability, I turn to a macro psychological personality model known as Self-Determination Theory (SDT). This theory conceives well-being as the satisfaction of three basic psychological needs: autonomy, competence and relatedness (which is very close to empathy). "[I]n SDT, needs specify *innate psychological nutriments* that are essential for ongoing psychological growth, integrity, and *well-being*" (Deci & Ryan, 2000: 229). The fulfillment of the three basic psychological needs is essential to the production of well-being at the individual level, according to SDT.

From needs to well-being

What is well-being? Simply put, it is long-term happiness. Deci and Ryan, the godfathers of SDT, elaborate: "Well-being is not simply a subjective experience

³¹ See (Chen, Van Assche, Vansteenkiste, Soenens, & Beyers 2015) for satisfaction of physical risk and financial risks vs. SDT need satisfaction.

of affect positivity but is also an organismic function in which the person detects the presence or absence of vitality, psychological flexibility, and a deep inner sense of wellness... Accordingly, SDT predicts that fluctuations in need satisfaction will directly predict fluctuations in well-being” (Deci & Ryan 2000: 243). Need satisfaction and well-being correlate, so that the fulfillment of relatedness, competence and autonomy is likely to result in long-term fundamental well-being.

Now the question is how this process unfolds. Between needs and well-being, there is a long chain of complex mechanisms which involve behaviors, goals and values. “[The] three needs can be satisfied while engaging in a wide variety of behaviors that may differ among individuals and be differentially manifest in different cultures” (Deci & Ryan 2000: 231). Whereas the needs are universal, their fulfillment varies because of different cultures and values.³²

Is sustainability a need, a value or a goal?

Like the integration of culture into sustainability that can be done in 3 modes (in, for, as), so can the integration of sustainability into well-being theory can be refracted along three paths. First, it can be a “fourth pillar,” that is a basic need in parallel to competence, relatedness and autonomy. By doing so, we reflect the fact that culture is an important ingredient of sustainability, as culture is an important “engine” behind the personal flourishing of people.

Sustainability can also serve as a value. It is interesting to note that not all values promote well-being and support relatedness, competence and autonomy. E.g., the cultural *moré* that boys should not cry (Deci & Ryan 2000: 247). Certain values are simply “unintegrateable” (*ibid*: 247). Sustainability can be considered a value and is surely an “integrateable” one. This starting point leads researchers to examine if people who are committed to sustainability are happier (see (Brown & Kasser 2005)).

Thirdly, sustainability can be regarded as a goal behind which one may find values such as the historical relation to a land.³³ Regarding sustainability as “only” a goal, rather than a value in and of itself, may help people engage in sustainability projects, for it does not require them to alter their basic propositions, at least not at the first stages of acquiring new sustainable behaviors.

³² Tim Kasser explains: “Values may... influence behavior through the goals they organize” (2002: 123). According to Kasser, people are likely to define their goals by the values they hold. Their behaviors are (or should be) sets of actions oriented towards the fulfillment of their goals.

³³ SDT research shows that when a goal is selected according to the values one holds, then the chances for its pursuit are higher; but if a goal is imposed by others, then it is less likely to be pursued, and well-being might suffer from low levels. In short, SDT hypothesizes that the process and content of goal pursuits make a difference for performance and well-being (Deci & Ryan 2000: 247).

Philosophical well-being

Not only psychologists but also philosophers ponder on the meaning of well-being. Unlike psychological research that usually asks questions of “what,” philosophy is engaged in questions of “why”; the former is descriptive, the latter is theoretical. I prefer reading contemporary philosophers who are sensitive to contemporary problems like sustainability; and especially those who are willing to make the necessary adjustments when they refer to the old masters of philosophy. One of the recent works dealing with the question of well-being is Terry Eagleton’s *The Meaning of Life* (2007). In this book he suggests conceiving happiness and well-being as the “compass” for managing one’s life:

If the meaning of life lies in the common goal of human beings, then there seems no doubt about what this is. What everyone strives for is happiness <...> [I]t operates as a kind of baseline in human life, in the sense that you cannot reasonably ask why we should seek to be happy. It is not a means to something else, as money or power generally are. It is more like wanting to be respected. Desiring it just seems to be part of our nature <...> The problem is that it is so desperately indeterminate. The idea of happiness seems both vital and vacuous. What counts as happiness?

A page later he answers:

Happiness is sometimes seen as a state of mind. <...> ‘Well-being’, as we usually translate [Aristotle’s] term for happiness, is what we might call a state of soul, which for him involves not just an interior condition of being, but a disposition to behave in certain ways. <...> Happiness is part of a practical way of life, not some private inner contentment.

Interestingly, Eagleton – like Deci and Ryan – reaches the distinction between happiness and money. Happiness is a goal in and of itself, while money and power are likely to serve other goals and tend to function as an attempt to compensate for unfulfilled needs. Unlike SDT that considers well-being as the result of fulfilling basic needs, Eagleton asks what it means. He suggests that happiness is equal to well-being, although well-being is also difficult to define. Well-being, according to Eagleton, is not only individualistic and humanistic as can be understood from psychological theories. It is also social. He explains:

Happiness or well-being ... involves a creative realization of one’s typically human faculties. It is as much something you do as something you are. And it cannot be done in isolation, which is one way in which it differs from the pursuit of pleasure.

Eagleton adds an important layer to the psychological understanding of the individual’s well-being by adding the societal layer. This addition can be

especially productive for the sustainable development movement, as it binds the personal actions each of us do or can do, like recycling plastic bottles and refraining from aerosol sprays (for the benefit of the Ozone layer) on the one hand, and the public actions at the communal and societal level, such as preserving a certain landscape or language.

Language, sustainability and well-being

Language occupies an interesting meeting point between culture and well-being. Yet, in the context of sustainable development, language is not frequently discussed. Once we add the cultural pillar to the sustainability discourse, such a discussion can take place. Obviously language is a major component of culture. It is not limited to the cultural pillar but also to the social one: Language cannot be successfully developed and implemented as an individualistic project. It has to function in society in order to flourish.

I will use only one intersection – between language and ecology. Language is required in order to describe a given landscape or weather. In English, for example, we have several words to describe snow, depicting the various forms, formats, and textures in which it appears. These are necessary in the weather of England and North America. In Hebrew there is just one word for this weather phenomenon. What will be the fate of the rich vocabulary for snow if due to global warming snow will become more and more rare? And what will be the capacity of future generations to understand works of literature describing various types of snow?

On the other hand, we need to invent new words to describe the various forms of pollution. In Hebrew a word was invented to describe the fog created by air pollution. Like its English equivalent – the word “smog,” that combines “smoke” and “fog”, the Hebrew word combines “fog” and “soot”. Do you have a word for this phenomenon in your language? How old is this word?

Summary

These two over-simplified examples show how language sheds a new light on cultural sustainability and can hint on one possible research direction. Now allow me to “close the loop” and link language, culture, sustainability and well-being.

Well-being is offered here as an alternative yardstick to monetization of needs and impacts as part of the sustainable development discourse. It is especially necessary in the case of culture since many of needs involved in culture as well as the impacts culture has on human beings can hardly be reduced to money. Well-being can be assessed by psychological methods, such as SDT

that is focused on the fulfillment of basic needs. In this scheme, sustainability, including the cultural one, can be regarded as a need, a value or a goal, depending on the context. Well-being can also be assessed by philosophical investigations that regard it as equivalent to happiness in the sense of a practical way of life that exceeds the private inner sentiment. Language is a major actor in the field of social interactions where life is practiced. Sustainability, like well-being, is a social endeavor, offering happiness at the personal level and flourishing of all inhabitants of this planet.

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Not Only Minority Languages Need Protection

Introduction

I would like to begin with thanking Mr Evgeny Kuzmin for the opportunity to participate in this forum, and its organizers for excellent preparation of the event.

The present event revolves round the way to protect ethnic minorities and their languages by promoting their access to the Internet. Sometimes, however, widely used languages spoken in countries with other official languages also need protection, as Swedish in Finland, Danish in Germany or German in Belgium. A similar situation was described by Jilvan Oliveira as he analysed Brazilian-Argentinian partnership in the study of neighbouring languages in border regions. Ali Eivazov spoke about the protection of languages and cultures in Azerbaijan, where they enjoy official protection.

However, I want to tell about a government policy that was eradicating languages and cultures present in the involved territory for 800 or even 1,000 years – one of the instances Nevil Montenegro described as regarding people not as part of the community.

I want to tell you about Latvia, a small country on the Baltic coast, with a steadily shrinking population, which is now below two million. Letts make 60% of it, and the rest are mostly Russians. A glimpse of history will show how Letts appeared in that land and how Russians did, and what ethnic entities vanished. I hope this piece of Latvian history will come as another proof that cultural diversity is a boon which needs state protection, especially if such diversity belongs to a nation's cultural heritage.

Latvia before the 13th century: common Baltic-Slav development

According to the official concept, the history of Latvia and the Letts opens with the arrival of Christian missionary Meinhard in the end of the 12th century to a land populated by the pagan tribes of Latgalians, Semigallians, Selonians, Curonians, and Livonians. Latgalians made the backbone of the future Latvian

nation, and the country and its people owed them the name (cf. “Letonia” in the Romance languages and “die Letten” and “Letland”, in German).

The land was of major strategic importance due to rivers crossing it: they made part of the famous route “from the Varangians to the Greeks”. Before the advance of the German crusaders, Latgale was part of the Polotsk, Pskov and Novgorod principalities, and had a considerable Christian (Greek Orthodox) community. The two crucial counties – Jersika and Koknese – were ruled by the Russian lords Vsevolod and Viachko. According to Henry of Livonia, the area was populated by Latgalians, Russians, Germans and Livonians.

Russian lands took up, in the 12th century, about a quarter of present-day Estonia, and Estonians (Chud, in Old Russian) were among the tribes that summoned Varangians (Russians among them) to rule their lands. Russian was the official language in Lithuania, which had no writing of its own. In a word, the east Baltic shore, especially Latvia, was part of the Russian World before the Teutonic knights appeared there.

The crusaders needed land to settle on, and they would be content with a firm hold on the Baltic coast if not for the Roman See, which was out to subdue Russia and so inspired them to feats of martial glory and new conquests, and prohibited their trade with Russia. If not for papal ambitions, the aggressive crusaders would have willingly come under the Russian rule as was the case much later, in the 18th century, with the Curonian barons who meekly swore allegiance to the Russian Empire, which was the only country that could guarantee them steady incomes and promote their country’s development.

According to Karl von der Decken’s schoolbook on the history of independent Latvia, published in 1921, Letts and Slavs branched off from the other Indo-Europeans simultaneously and lived side-by-side for a long time. That is why Lettish is genetically closer to the Russian language than to German. Boris Infantyev identified approximately 2,000 Lettish words sharing roots with Russian ones. Many film-goers remember the comedy *Ivan Vasilyevich: Back to the Future*, where Yuri Yakovlev as Ivan the Terrible says majestically: “Az yesm Tsar!” (Old Russian for “I am the Tsar!”) – words closely coinciding with the modern Lettish *es esmu*.

The impact of the German rule in the 13th–19th centuries: the fundamentals of modern Lettish and the acceptance of German culture

The German rule, in the 13th–19th centuries, thoroughly changed the Lettish (i.e., Latgalian) language, giving it a German sounding and a great amount of

verbal borrowings in a greater part of Latvia, while Latgale, where Polish and Russian rule lasted longer, retained its original sound.

Historian Nikolai Karamzin, with his equally perfect Russian and German, wrote about late 18th century Lettish and Estonian peasants: “I do not see the slightest difference between Estonians and Livonians, except for the colour of their coats: the former wear black and the latter grey. Their languages are similar with scanty original elements, many German words and a few Slavic borrowings.”

By the end of the 19th century, the Lettish language had incorporated features of all the neighbouring languages, mostly German and Russian.

The Impact of the Russian rule in the 18th–20th centuries: the maturing of the Latvian community and its sweeping progress in a cluster of cultures

Though the Russian rule on the Baltic coast resumed in the 18th century, Russia was withstanding from intervention into its regional rule for 170 years. The Russian language was not introduced into local life till the late 19th century, when it appeared in the office routine and later in education. At the same time, the indigenous population received greater opportunities and extended rights thus to involve people from every walk of life into the development of the Baltic region and the entire Empire without notable social tensions.

By the end of the 19th century, the Russian government policy had turned Livonia and Courland – parts of today’s Latvia – into a multiethnic community with close cultural, economic and academic contacts. Though it was dominated by the German and Russian communities, Lettish culture enjoyed greater state protection.

All advertisements and street signs were made in three languages – German, Russian and Lettish. The same concerned signs and advertisements in tramcars. Fluent command of the three languages was demanded of tram conductors. Multilingualism thrived in culture. There were 28 German-language periodicals in Riga early in the 20th century, 20 Lettish, 13 Russian-language, and several newspapers and magazines in Yiddish, Lithuanian and Estonian. Theatres that staged plays in German, Lettish and Russian were entitled to government grants – the Russian company to the smallest. The German Theatre, whose premises have been overtaken by the Opera now, hosted other companies’ Lettish-language productions. Their access to the premises was a proviso under which the Riga governor authorized the construction of another Russian-language drama theatre – a second one though the Russian community was fairly small, 17% of the total Riga population in 1897. All ethnic communities welcomed visiting Russian-language companies so enthusiastically that their number had to be limited to protect other theatres from unequal competition.

This government policy made Letts ardent Russian patriots, tested by World War One. Though some families brought up their children in German traditions, a majority of Letts lived in the Russian cultural atmosphere. It took another war, famine and twenty years of dogged persecution of tradition and cultural heritage allegedly opposed to the Soviet regime to nurture lasting public prejudice against everything Russian.

Nationalities policy in independent Latvia, 1920–1940: the emergence of Lettish cultural monopoly, suppression of other ethnic entities and eradication of their cultural heritage

Article 115 of the draft Latvian Constitution, Pt. II, granted ethnic minorities “free use of their languages in oral and written form”, and Article 116 guaranteed them national cultural autonomy. Alas, parliament never endorsed Part II. Its burial indicated Latvia’s U-turn in its policy toward languages and their speakers:

- The Lettish language received a superior status;
- The history of the land was replaced by the history of Letts;
- The other languages were officially ousted from paperwork, public meetings, street signs, advertising and local councils’ contacts with the population;
- Mandatory Lettish language tests were introduced for civil servants;
- Ethnic minorities’ cultural autonomy was abolished while the basic ethnic communities – Russian and German –changed their status to ethnic minority;
- An editor of a media outlet needed fluent command of the Lettish language to qualify, and only an ethnic Lett could be appointed editor of a Lettish-language media outlet;
- A child could not attend another ethnic entity’s school; the ethnicity of a mixed couple’s child was determined after his/her father, and a child one of whose parents was a Lett was obliged to go to Lettish school;
- Classes with Lettish as the language of instruction were mandatory in ethnic minorities’ schools.

This policy halved the number of ethnic schools within three years 1934–1937.

The 1920s-30s were the time of a toponymic tornado – the sweeping renaming of towns, villages and streets. Architectural gems and cultural monuments were demolished despite ethnic Germans’ protest in a drive “*to modernize Riga and clean it of the German spirit to put an end to the heritage of the Lettish people’s*

suppressors and exploiters.” There were plans to pull down the Old Town and erect New Riga on the spot. Following the Latvian-German treaty of 1939, 50,000 ethnic Germans were deported to Germany, and Latvia lost one of its ethnic entities, heir to a cultural legacy of global purport – a community that was largely determining the development of the country and Letts’ identity for the previous seven centuries. The deportation spectacularly promoted the new regime’s efforts to suppress the remaining peoples.

The language policy of the German occupation authority, 1941–1944: German speakers’ ethnicity doesn’t matter

The Third Reich introduced autonomy in Ostland, the seized East Baltic territories, whose officials were obliged to contact the occupation authority solely in German, while bilingual – German and Lettish – communication was tolerated between the local people. Ethnic languages were still used for instruction in the few ethnic minority schools that had survived by 1941.

The Soviet language policy, 1945–1990: all ethnic entities are equal but Lettish culture enjoys priority

There was no binding legislative regulation of language use in the Soviet time. Both Soviet constitutions stipulated the publication of laws and bylaws in Lettish and Russian, and guaranteed instruction in ethnic languages. Lettish was given priority in the judicial routine, though the use of the language predominant in a particular locality was granted in the local law courts. Work records and civil acts were bilingual. Some offices did paperwork in Lettish and some in Russian. University instruction was also bilingual with the exception of certain humanitarian professions taught only in Lettish and a few technical ones in Russian. Lettish language classes were obligatory in Russian-language schools, just as in-depth study of Russian in Lettish-language schools. This arrangement much improved the population’s command of both languages.

The Latvian SSR’s cultural offices were intended either for the Lettish community or for the entire population. For instance, the Latvian television broadcast for Lettish audiences, while Russian speakers made do with the USSR Central Television, which was accessible to all. Thus, Letts were in a privileged state in the cultural sphere.

The language of communication in offices and industry depended on the predominance of Russians or Letts on the staff. There were no special standards for the knowledge of languages, and employees’ status did not depend the slightest on the fluency of their Russian or Lettish.

Cultural and education policy of the Latvian Republic from 1991: frontal attack on the Russian community and undermining interethnic accord

The division of the Latvian population into citizens and non-citizens in 1991 was among the most stunning legislative events in the second Latvian Republic. It allowed for the future nearly unhindered linguistic, cultural and social segregation of Russian speakers – much to the detriment of Latvia's economy. Of all the post-Soviet Baltic countries, Latvia had the largest ethnic Russian community, and was the harshest on it. Every locally resident applicant could obtain citizenship in Lithuania, where all ethnic minorities put together made 15% of the population. Things were worse in Estonia, where Russian speakers make 30% of the population: they were discriminated in franchise and could not vote in parliamentary elections though local elections were open to them. Latvia proved the toughest.

The eradication of the Russian language began with painting over Cyrillic inscriptions on street signs, and the names of Russian cities vanishing from road signs. The Riga-Pskov Motorway was renamed Riga-Veclaicene. The latter is a tiny, sparsely populated town on Latvia's east border. Few have ever heard of it, unlike Pskov, a well-known city. All this doesn't matter: the main thing is to avoid even the slightest mention of Latvia's big neighbour in the East.

The situation is similar in former Yugoslavia, where all references to Serbia, recently the leading republic in the federation, are wiped off. For instance, the Zagreb-Belgrade Motorway in Croatia was renamed Zagreb-Lipovac, after an obscure small town, much to drivers' consternation and to fan interethnic tensions. A great distance separates Latvia from Croatia, so it appears preposterous that the road sign idea occurred to both governments spontaneously, without foreign prompting.

The situation is no better in education. Russian vanished as a language of instruction from Latvian state universities with the initial version of the Law on Education. Up to 20% of disciplines can be taught in any of the European Union languages – but not in Russian. School reform followed closely. Despite public protest, the law stipulates such a high minimum number of Lettish-language classes in Russian-language secondary schools that they turn into Lettish-language schools with extended Russian-language curricula. As for Russian-language classes in Lettish-language schools, they are now optional, so Letts under 40 years of age have problems talking to their ethnic Russian neighbours. However, a chapter on the Russian obscene vocabulary has supplemented a Lettish language study book for Lettish-language schools.

The discrimination of non-Letts has a formidable tool: every adult who has not finished Lettish-language secondary school needs a certificate of working command of Lettish, necessary for employment. With time, the demand for perfect command spread to all employees, down to cleaning ladies and watchmen.

Russian-language signs are banned, and the use of spoken Russian is limited among employees and with clients. It concerns all public places except churches. Violations of the law are fined heavily.

The State Language Centre, with extensive competences, is another tool of linguistic discrimination. An anonymous denunciation of a person allegedly at odds with Lettish was not checked but the victim was summoned for language tests by demanding experts. Only few qualified. The rest were fined and lectured on. Informers received a mighty weapon to use against fellow-workers and anyone else. The centre also evaluated parliamentary and other candidates, and many were revoked on its initiative. There was uproar in 2011, when the centre fined a Russian actor who came to Rezekne to play Father Frost at Russian children's parties.

Latgalian is not taught in the Latvian educational system because it bears an extent of similarity to Russian and associates with some awkward aspects of local history. Similarly, linguists in former Yugoslavia doggedly track down differences and coin new ones within one language to drive in a wedge between Serbians and Montenegrins. Proponents of unity are incomparably weaker as they oppose a 20-year-long blockade and an impact from abroad.

Conclusion

Russian culture in Latvia deserves to be protected because interethnic accord within a nation makes it stronger and vouches for ethnic entities' survival and progress.

The future belongs to the truth and justice. The world looks up to Russia as the last bastion of humane development. Latvia is launching Russian-language school transfer to Lettish as language of tuition. The reform spells the doom of Russian education and threatens to entirely assimilate the ethnic Russian community, though it is one of those whom Latvia owes the pillars of its present-day culture. Still, there is hope that the reform will never be implemented due to international influence.

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The Built-In Obsolescence of the All-English Model on the Multilingual Internet

The notion that English is still the language of the Internet is so ingrained in people's minds around the world that if you ask them to make an educated guess about the percentage of the English language on the web today they will generally come up with a figure above 60%, if not 80% or beyond. This held true in the beginning of the World Wide Web in the late 1990s, but when you tell them that it fell below the 30% mark in the first decade of the 21st century they generally look at you in bewildered puzzlement.

With English standing high at 80% or more in the early days of the web, you were entitled to say that English was the language of the Internet, adding grist to the mill of those who contended that English was destined to be the sole lingua franca of the "global village" and the only one worth knowing for international communication. "Global English. What else?" was the order of the day, to rephrase the famous globalized coffee ad, which, ironically enough, has been translated in a vast array of languages.

The built-in obsolescence of the All-English model on the Internet was predictable and predicted in a number of studies right from the start, which shows how pervasive and deceptive some commonplace representations may be when not seriously put to the test of scientific scrutiny.

This does not mean that we ought to give in to the utopian views that flourished in the noughties and naively think that in a cyberspace gone multilingual all languages and cultures are on the same footing. Some are definitely more equal than the others, to put it in Orwellian terms. It does not take a genius, though, to grasp that in today's Information Age having access to less than 30% of the content of the Web instead of 80% or more makes a huge difference and is simply no longer an option. This is an issue the English-speaking world has become keenly aware of, so much so as to be among the most articulate opponents of the All-English model with Institutions such as the British Academy or the British Council taking the lead.

In other words, the "communicative value" of English (de Swaan 2001) has gone down relative to other languages dramatically, which may be seen as a

paradigm shift not only on linguistic or cultural but also on economic and geopolitical terms.

The fact that English is no longer the language of the Internet (Zucherman 2013) has also brought to the fore another issue, i.e. the importance of minority or endangered languages. In terms of communicational value, their communicative “weight” – say a minority language like Basque in Europe or an endangered language like Nuu in Africa – is close to nil compared with giants like Chinese, English, Hindi/Urdu or Spanish. Yet they too are present on the Internet, which may be seen not only as a threat but also as a chance for minority and endangered languages (Vannini, Le Crosnier 2012). Overly cut-and-dried representations of the Internet should not be taken at face value. The multilingual cyberspace is far more complex than is generally assumed, and growing more so by the day, and the All-English model is certainly not the best way to understand it. Like all devices with built-in obsolescence, its lifespan is a limited one and in that regard the cyberspace is only the litmus paper of a larger, global issue.

It's the economy, stupid

There are a number of reasons why the cyberspace turned multilingual in such a short span. A central one was easy to figure from the start: access. The World Wide Web was first fully commercialized in the USA. No wonder it spoke English. As of 2015, 42% of the world's population had access to the Internet, which means that 58% are left out. What is known as the digital divide depends on the economy. Once the Web was extended worldwide it was only natural that it started speaking other languages than English and since that irrepressible process took on exponential proportions, it was to be expected that the shift from a predominantly monolingual to a multilingual cyberspace would be a fast one.

How fast that process would exactly be was, of course, impossible to predict in the 1990s, but the fact that the BRICS (Brazil, Russia, India, China and South Africa) had begun to rise with impressive growth rates was proof that globalization was being driven by other countries than the so-called Triad (USA, Europe and Japan). The world was no longer bipolar after the dissolution of the Soviet Union in 1991 and it did not turn into a unipolar world dominated by the American hyperpower as some people expected but into a multipolar one in which languages such as Portuguese (Brazil), Chinese and Hindi/Urdu (India) would be the languages of rising, no longer peripheral world powers. In such a world, the All-English option was unlikely to remain unquestioned: the chances were that a multipolar world would be a multilingual one.

As early as 1997 David Graddol published a pioneering study for the British Council entitled *The Future of English? A Guide to Forecasting the Popularity of the English Language in the 21st Century* which showed that English would not be the language of globalization, as so many people thought, but only one of them. In Britain as well as other English-speaking countries foreign languages were deemed to be useless in a world dominated by English. This was a dangerous option: “[I]n future Britain’s monolingualism may become a liability which offsets any economic advantage gained from possessing extensive native-speaker resources in the global language” (Graddol 1997: 57). It was the case in Europe: “A greater volume of trade will occur within Europe where trilingual competence (in English, French and German), or at least bilingual competence, is widely regarded as necessary, especially for trade with peripheral countries” [*ibid.*]. It was likely to occur elsewhere: “In other regions of the world, regional languages may become important in business – such as Chinese in East and South-East Asia, and Spanish in the Americas.” [*ibid.*].

There are two fundamental lessons to be drawn. The first one is that monolingual speakers of English are at risk: “The likelihood is that English may be so prevalent in the world that Britain obtains no special benefit in having so many native speakers: the advantage may shift more clearly towards bilingualism.” [*ibid.*]. The second is that the world we live in requires more than the knowledge of just two languages, although this is already a good starting point as can be seen in the study *Word for Word. The social, economic and political impact of Spanish and English*, released jointly by the British Council and the Instituto Cervantes in English and Spanish (2011). Taking the wider view, a recent CBI/Pearson survey rated foreign languages as useful to UK trade in the following order: French (53%), German (49%), Spanish (36%), Mandarin (27%), Polish (23%), Arabic (20%), Cantonese (20%), Russian (16%), Dutch (15%), Japanese (14%), Portuguese (11%), Korean (5%), Other (14%).” (CBI/Pearson 2015: 42).

The other option would have been to wait for the rest of the world to adopt the All-English model but unfortunately, to quote John Maynard Keynes, “in the long run, we are all dead.” The multilingual Cyberspace is the illustration of that down-to-earth reality.

The paradox of the centrality of English in the information society

In its crudest form, the All-English model is easy to invalidate as outmoded in the case of the Internet with English accounting for less than 30%: the figures speak for themselves. But there are subtler versions of that model. Abram De Swaan’s *Words of the World. The Global Language System* (2001) is a case in

point. To explain why English has become *the* global language one does not only have to take into account the number of speakers (P) of that language (in that case, Chinese would be chosen instead of English) but also its “centrality” (C), and it is the conjunction of these two elements that defines its “communicative value” (Q) according to the following, simplified equation:

$$Q = P \times C$$

The “Q-value” of a language is actually determined by its centrality and the most central language of all is English, the sole “hypercentral” language of the global system interconnecting all the languages of the world. Philippe Van Parijs goes one step further in *Linguistic Justice in Europe and the World* (2011) and argues that English is destined to become the world’s only lingua franca, which is the best of all possible options (solving the world’s urgent problems such as war and peace, development or environmental issues requires a common global language) and is the fairest one (the other solutions are too expensive and only available to the elite).

The problem is that if we adopt the lingua franca argument as the most economic and democratic option to the expense of any alternative solution we end up with what Louis-Jean Calvet called the “paradox of the dominant language” (Calvet 2007): with access to less than 30% of the Internet you are under-informed in spite of the hypercentrality of English. This realization led the British Academy to issue a position paper in 2009 called *Language Matters* that showed what was at stake:

In the humanities, for example, fields such as history and philosophy need to draw on scholarship in other languages which is not translated into English, nor is likely to be. In the social sciences, comparative studies and cross-national work in subjects such as politics, sociology and development economics requires knowledge of other languages. And researchers in all disciplines (including the natural sciences) need skills in spoken as well as written languages in order to take up and make the most of opportunities to study and work overseas, or collaborate with overseas partners. With the increasing development in collaborative work, and the large sums of money attached to such work by national and international agencies, lack of language skills inflicts a real handicap on scholars in many parts of the British university system, and therefore weakens the competitive capacity of the system itself. (British Academy 2009: 3)

The same argument may be applied to the Internet, as Ethan Zuckerman from the Berkman Centre for Internet and Society at Harvard University did in *Rewire. Digital Cosmopolitans in the Age of Connection* [op. cit.]. Along with Rebecca MacKinnon he founded *Global Voices* in 2004, a multilingual

organization (more than 35 languages are represented) of online media experts and translators whose aim is, according to their site, to “curate, verify and translate trending news and stories you might be missing on the Internet, from blogs, independent press and social media in 167 countries.”

One of the arguments used by van Parijs to promote English as the world’s only option is that translation is too expensive for the man or woman on the street. This is not necessarily the case. *Global Voices* is a collaborative, volunteer-powered project. It’s the same thing with the TED Talks site (originally all-English), whose Open Translation Project is even more impressive. It was launched in 2009 “with 300 translations in 40 languages, created by 200 volunteer translators. Today, more than 50,000 translations have been published in 104 languages (and counting), created by more than 15,000 volunteers.” To reword Umberto Eco’s phrase, the language of the Internet is not English. It’s translation in all its forms (Oustinoff 2011).

The Gravity model and endangered languages

The emergence of a multipolar world went hand in hand with the growing realization that languages mattered not only on linguistic or cultural grounds but also for their economic and geopolitical importance. This led to the application of Newton’s gravitational law to the economics of international relations. Two countries are like two bodies in the universe – they attract each other with a force that is directly proportional to the product of their weight on the world stage and inversely proportional to the distance between them. In other words: “two countries might exchange economic flow (trade, investment or migration) depending on two basic variables – their economic size and their distance – as well as other factors that could either weaken or strengthen this exchange.” (Narbona 2011: 305). The results run counter to the All-English option: “When two countries speak the same language, bilateral exports increase by 186% in comparison with two other commercial partners who do not share the same tongue.” (*Ibid.*: 306). In other words, sharing the same language is always better than using a second language. But there is another, less trivial side to it which is quite interesting in the case of English compared to Spanish: “Sharing English as the official language increases bilateral trade flows by 144%, while sharing Spanish does so by 389%.” (*Ibid.*). This explains why the current slogan of globalization is: “no translation, no product” (Topping 2000: 111) and the Internet is no exception to that rule.

The problem with gravity models is twofold. As they tend to stress the competitive advantage of knowing foreign languages, this may pave the way to what Daniel Dor called “imposed multilingualism”: “The Net is growing

multilingual mainly because the agents of economic globalization have realized that adapting to local cultures and languages is a necessary component of staying competitive – and because the commodification of language-related materials constitutes a huge global market.” (Dor 2004: 115). Second, peripheral languages are marginalized – what part may endangered languages play within a gravity model when their relative weight or “Q-value” is close to nil? Yet multilingualism is being promoted by the British Academy or UNESCO without being imposed and we now know the Internet (Jones 2015) may prove invaluable for the revitalization of languages that were once on the brink of extinction: “Modern globalization [...] can spread ideas of how languages can reverse a downward trend, as Welsh, Maori and Hawaiian appear to have done recently in their different corners of the world, or breathe new life into the apparent husk of a dead language, as Hebrew did in the 20th century.” (Ostler 2009: 209). This means that the prevailing viewpoints that circulate on the media have serious shortcomings as they are unable to encompass the whole spectrum of today’s globalized reality. One of the reasons we should adopt the less linear, Newtonian modes of thought is that we live in a more complex world which, according to David Graddol, can better be explained by chaos theory:

One of the central insights of chaos theory is that complex behaviour can result from the interaction of simple forces. [...] Chaos theory also explains why very small influences can sometimes give rise to large effects. The classic but somewhat fanciful metaphor is that of a butterfly which flaps its wings in the Amazon and triggers a hurricane in the Pacific. In both cases the behaviour of the system is counter-intuitive: most people imagine that if we understand basic mechanisms we should be able to predict the overall behaviour of the system. We also feel that a small force should have a smaller effect than a large one. Chaos theory suggests that both intuitions can be wrong. (Graddol 1997: 21)

The Internet is a case in point. It took only a decade to turn a predominantly all-English space into a vastly multilingual arena, with more than 280 languages used on Wikipedia as of 2015 and that trend does not seem to abate. Linguistic diversity has now become an inescapable reality of the Web.

Conclusion

In the information society we live in, access to the Internet is vital. About 60% of the world’s population living in developing countries are still the victims of the digital divide. But bridging that gap is not enough. We also need to bridge the language gap and in more than one language.

Contrary to what is generally believed, languages are not interchangeable (Trabant 2008). Each language has a different worldview (German *Weltansicht*), a notion Wilhelm von Humboldt put forward in the 19th century and which he discovered, incidentally, by studying peripheral languages such as Basque and Kawi (the ancestor of modern Javanese). This is what is now called linguistic relativity or the Sapir-Whorf hypothesis. The word *state* does not exactly mean the same thing as *Etat* in French, *Staat* in German, *Estado* (Portuguese and Spanish), *государство* [*gosudarstvo*] (Russian) or *guójiā* in Chinese, not to mention philosophical concepts (Avtonomova 2008). But there are other issues at stake.

Nelson Mandela is often quoted as saying: “If you talk to a man in a language he understands, that goes to his head. If you talk to him in his language, that goes to his heart”. This, in itself, would be enough to invalidate the All-English model and to explain why the Internet could not have remained monolingual for long.

Last but not least, there is a third dimension to be taken into account. To have an in-depth knowledge of any culture, you need to know its language. A trivial aspect of that question is the Internet. You can now only have access to less than 30% of its content with English. The All-English model is not the solution any longer, but the problem, as it dooms you to be under-informed with all the ensuing risks of potentially disastrous cultural misunderstandings.

In the 1990s it was commonly believed that the language of the Internet would be English. Today, a paradigm shift has taken place, the impact of which is only beginning to be fully grasped. It is, indeed, a much more complex world than previously thought. Does that mean that English is irrevocably on the wane? The answer was provided by Fareed Zakaria in his *Post-American World*, which is “a book not about the decline of America but rather about the rise of everyone else” (Zakaria 2008: 1), starting with the BRICS and other emerging powers. The share of English on the Internet has evolved accordingly: in absolute terms, it has actually increased as did the rest of the Web, but in relative terms, it has declined as more and more languages caught up with it. English remains an invaluable language for international communication, but in a multipolar world it has – as the USA – to learn how to collaborate with other languages, i.e. to share power because language as well as culture is a form of (soft) power (Nye 2004). But the new era we live in is characterized by “the diffusion of power from states to other actors” (*ibid.*: 5) in a variety of ways, empowering groups – e.g. NGOs but also multilateral networks such as MAAYA – and individuals (notably via online social networks).

This explains why so many languages are emerging on the Internet, and not only the top 5% that are spoken by 95% of the world population but also endangered languages which make up a large proportion of the remaining 95% of world languages (5,000 to 7,000 according to estimates) that are spoken by 5% of the world's population.

The built-in obsolescence of the All-English model can be traced back to the late 1990s, which coincided not only with the emergence of the World Wide Web but also the emergence of today's multipolar world in which communication – and not merely information – has taken pride of place (Wolton 2003). It's high time we looked at the Web with the same fresh eyes.

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Back to the Roots when the World Falls Apart

Abstract

During two years, the Central African Republic underwent a violent kind of civil war in which hundred thousands of people died, many villages got burned or destroyed. Lorries, cars, enterprises and administrative buildings were looted. The whole society was broken down along religious lines, and social links and values were completely disrupted. The bewildered and hopeless countryside youth went back to share their ancestors' beliefs and learn their methods of war in order to fight back their people's aggressors. To find an effective way out of the crisis and rebuild the social cohesion as a first step toward reconciliation, NGOs and youth movements coached by some experts organized workshops with chiefs of villages and leaders of local communities. They revisited together the traditional diplomacy and cultural values of the old African society. The awareness of the ways traditional African societies solve conflicts leads people to find original and satisfactory solutions to the present crisis.

Introduction

Though this Experts' meeting is devoted to multilingualism in cyberspace, I beg you to allow me to talk to you about the terrible drama that struck my people in the Central African Republic last two years and how, by going back to their ancestors' beliefs and cultural practices, they found the resources to struggle out of this situation. This experience clearly shows how it is important to spare, save and sustain the cultural ways of local communities throughout the world. This would prevent these communities from cultural extinction when it happens that their world falls apart.

When the world falls apart...

From December 2012 to June 2015, the Central African Republic suffered from a very cruel kind of civil war characterized by intensive attacks against the civil population, massive destruction of houses, buildings and enterprises, looting

goods, cars and lorries, sacking economic infrastructures, administrations and public goods. Though a successful putsch on the 24th of March 2013 gave the aggressors full control over the whole country, these exactions did not stop but became even more intense due to the raise of a movement of resistance amongst the population. This was a full war time with non-stop explosions and gunshots day and night! It was commonly said that the life of a human being had less value than the one of a chicken! In the countryside, 500 villages were burned or completely destroyed. Every town was wrecked. The unarmed civilians ran away as far as they could in the deep bush or forest where they are hunted like wild animals. Although figures continuously vary, UNHCR reported that, in January 1914 as the crisis reached a climax, more than 350 000 people died, 930 000 were dislodged from their home places and 190 000 refugees ran away in the neighbour countries.³⁴

On January 11th 2014, the putschists are compelled to quit. Very slowly peace is coming back, yet the level of security remains high due to large dissemination of war weapons. Everybody has become mistrustful and adopts a restrictive social attitude. Most social links are disrupted. The legendary African large family has shrunk to become limited to the first circle of siblings, with whom one can share the only one meal of the day. As everybody strives for survival each day, he or she becomes much smarter and more skilled in the art of getting any kind of advantages from others by all means, including bad practices such as cheating, stealing, hijacks, corruption, and so on, overlooking ethics and values usually respected in a normal society. In such a dissolute and destructive social environment, young people have completely lost all moral guidelines and become easy prey to all kinds of manipulations. In towns, it is amazing to see how mobile phones are heavily used as the main way of communication anybody can afford. Therefore, mobile phones have become some of the first things to be sought for by attackers, or to be stolen in any case.

Back to the roots

During this dramatic period, more and more people turn to God to find some kind of relief. The number of religious denominations considerably increases and so many new churches are built by their believers, who devotedly carry out multiple social activities such as prayer groups, spiritual associations of women, men and young girls, and so forth. It is important for these people to be part of their parishes as they find there mutual aid and moral guidance they no more get outside.

³⁴ <http://www.unhcr.fr/pages/4aae621d553.html>.

In the deep countryside youngsters have gone back to learn their ancestors' beliefs, ethics, and methods of war in order to fight their people's aggressors back. They have been followed by many other youngsters and their movement – known as “Antibalaka” – has significantly contributed to shape a new equilibrium of political and military forces in the country that has led to a series of negotiations to get out of that doomed crisis.



In order to get people be aware that they are also part of the solution of the crisis, a programme was set up by peace makers to carry actions at the grassroots of society. Young people under 35 years don't know much about the history of their own country. For them to have a better understanding of what is happening, it has been very useful to talk to them about how the country has been ruled since it got independence until now. The youngsters finally decide to create an association of aware youth³⁵ with the aim of raising the awareness of the youth, restoring the authority of the chiefs in their town parts, promoting a respectful attitude toward women, children and elders, working together on projects like organizing a football competition between boroughs, creating small jobs for unemployed youngsters, learning computer technologies, and so on. As the young association is growing, the level of exactions in the borough significantly decreases. The young people have met each of the 18 chiefs living in their borough and have talked to about 700 other youngsters in the area. It is worthwhile noticing that they have carried all their investigations in Sango language while they more often use French when they speak to each other.

A more ambitious programme was then set up in collaboration with a humanitarian NGO called “Afrique Secours Assistance” (ASA) with quite similar objectives: a) to rise up the awareness of chiefs in six countryside villages in order to restore social cohesion, b) to try and bring back together Islamic and non-Islamic communities which have been violently opposed during the crisis. All the villages visited (Mbaïki, Boukoko, Boda, Bogoma, Bogoa, Boganangol) are located in the district of Lobaye, in the south-west

³⁵ Association of the aware youth of the 8th borough of Bangui town – Association des Jeunes Conscients du 8e (AJC8) arrondissement de Bangui.

of the country. Six experts³⁶ were called upon by ASA to carry two sets of workshops with the chiefs and the community leaders of the villages. The workshops' more popular main topics looked like a long stroll in the past back to the traditional way of living with examples drawn from local languages and customs. As an example, let us select two of the main topics we addressed. How and on which basic values were our traditional African societies built? And how were conflicts solved?

On the line of social organization, we discussed topics like hierarchy and alliance at three levels: the family, the village and the whole country, pointing out rules, duties and rights of everyone in these frames. Any healthy society is organized featuring hierarchy levels. In a family, younger children must respect and listen to elder ones, and both have to respect and obey their parents. Adults must respect aged people and everyone in a village must respect and obey the chief of the village, and so on! On the opposite, anyone who is in a power position has to take care of the one who is under his or her responsibility. During the workshops, every participant is reminded that one of the best ways to rebuild society is to restore its social hierarchies and values.

One of the outstanding values of our traditional society is the high respect and importance given to alliances. At the family level, in-laws are given priority over kin. It is said that, if your father and your father-in-law are both drowning, you must go and save your father-in-law first then you may go and save your own father. At the village level, guests are so well treated because it is a benediction for the village to welcome and be kind and generous towards foreigners coming to the village. At the state level, an open minded policy of immigration would be considered natural before the crisis. Above all, treaties based on blood-mixing are the upmost way to seal an ever lasting peace alliance that puts an end to war between two tribes. The former enemies become allies forever. People do respect a blood-mixing treaty over generations! Recalling all these traditional values and ways of peace-making helps us to overcome our present crisis and find our way toward reconciliation and social cohesion.

A peace treaty is the result of a long and hard work on the way conflicts were solved in our traditional African societies. We explored the concept

³⁶ *Professor Urbain Ainoa (Private University of Montesquieu in Côte d'Ivoire), Professor Marcel Diki-Kidiri (former Senior Researcher in linguistics of the Centre National de la Recherche Scientifique (CNRS) France), Vincent Gossala (Chief of the Anthropology Department, University of Bangui), Emmanuel Kouroussou (Historian, University of Bangui), Georges Andjipakoto (Specialist on Geopolitics and the Central African crisis, University of Bangui), René Mandy (specialist on Communication, University of Bangui).*

of “traditional diplomacy” initiated by Professor Urbain Amoa (Private University of Montesquieu in Abidjan, Côte d’Ivoire) which involves the following five principles:

1. Language courtesy

When people are angry, it is difficult to talk courteously to one’s challengers without indulging in insults or harsh words. They must be aware that, by doing so, they wipe away all possibility to find a realistic issue to the dispute. That is why the first principle reminds us to always keep courteous whenever we talk and particularly in a mediation context.

2. Awareness of four kinds of truth (hidden, scientific, divine, received)

When people are involved in a conflict, everyone is convinced to be right, to hold the truth. Hence, it is hard to accept that maybe the opposite side might not be completely wrong. This second principle reminds us that what we call truth may be reported to four different kinds.

The first kind of truth is called “hidden truth”. Let us take, for instance, the case of someone who has actually stolen some money in a wallet. He perfectly knows that he is the thief even though it is not possible to give the slightest evidence of it, so that he can strongly deny it in public. The truth he knows is a hidden one and presumably nobody will ever find it.

The second kind of truth is the called “scientific truth”. It is one that comes to evidence after a scientific objective research. Typically, a police investigation that put in evidence with no possibility of doubt that someone is the author of a given crime, e.g. thanks to DNA analysis. Even if the author keeps on claiming innocence, the evidence of his crime is there as a bare objective truth that prevails on his sayings.

The third kind of truth is called “divine truth” because it is what only God knows. People usually say something like this “God knows I am innocent!” It is commonly accepted that God, who is supposed to know everything, knows the truth about the issue under consideration. Even scientific evidences may mislead human judgement. That is why it is accepted that there must be somewhere a truth that only God knows.

The forth kind of truth called the “received truth” is the one which is socially accepted as the result of a compromise in order to keep harmful consequences at the very smallest level as possible. In a complex conflict, it is very common to accept a judgment which is not quite satisfactory and get some kind of

reparation instead of looking for a perfect judgment which would last very long and cause much more disaster than necessary. Such judgement states a “received truth” that solves the case.

When people are aware of these four kinds of truth, then they will be ready to consider their own perception of the truth as relative. Hence they are able to listen and adopt a positive attitude toward conciliation.

3. Three areas of talk (indoor, in yard, public place)

In most African cultures, and presumably in many other non-African ones, when people come to address a difficult issue, they can't say everything everywhere. Indoor is the place where a woman is free to say her mind to her husband and give him advice or make suggestions on the way he should make decisions in public. The yard is the place where someone's children, friends and neighbours may come and give their points of view to a man before any public declaration. Finally, the man is the only one to make statements in public as a wise man.

4. Time of receptivity

When people are emotionally involved in a conflict, they usually are reluctant to accept the first advice on conciliation. It takes some time to convince them. This fourth principle reminds advisors and mediators that they must be aware of the time of receptivity and be patient. Some results can be expected only after several rounds of negotiations that give time to the partners to think overnight before making decisions.

5. Priority to consensus vs majority

In a full-fledged traditional African diplomacy, the principle of full consensus is given priority over the one of majority. The feeling is that an issue is not totally solved as long as there still remains a minority which is not satisfied with the way the majority solved that issue. Many dialogues and discussions are needed to eventually reach a consensus. Unfortunately this elegant solution is not always possible, therefore the majority principle is applied now and then.

Conclusion

There are, of course, many ways of dealing with a crisis to get out of it, and even several approaches to the same conflict from different points of view as described in many studies. Yet it is worthwhile to underline that grassroots work amongst local inhabitants of villages is one of the most efficient approaches.

That is how, by going back to their own traditional values, their own ethnic identity, culture and languages, Central African people survived and found the necessary resources to rebuild their social cohesion, first of all locally and then, hopefully, at a larger scale.

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Multiple Directories: Open Roots in the Internet, a Novelty that Changes Everything

Abstract

The Internet is one of the economic and human development engines; network access is essential for the dissemination of information, the growth of economic markets, dissemination of culture. All development, and daily life are based on the global mesh network and it seems normal.

The commonly asked question is: can the Internet, one day, split and block the development of mankind?

But the Internet we are using is built on sand; originally it was not designed at all for the intensive use we make of it every day.

But which Internet are we talking about: the network of networks (catenet), the darkweb, the web, email, GAFAs³⁷ applications?

This question boils down to another one: how many internet(s) do we have?

From a technical brief reminder we will demonstrate that the Internet is necessarily multiple and that the interpretation and usage of the initial code is making it an open tool, multilingual, available to all linguistic communities.

Internet, Catenet, Network of networks

Invented by the Cyclades team led by a French engineer, Louis Pouzin³⁸, the datagram protocol has solved the technical difficulty of carrying digital data packets from point A to point B without establishing a first communication channel, unlike the Arpanet³⁹.

³⁷ GAFAs: Google-Amazon-Facebook-Apple.

³⁸ Andrew L. Russell and Valérie Schafer (2014). *In the Shadow of ARPANET and Internet – Louis Pouzin and the Cyclades Network in the 1970s*. In: *Technology and Culture*, 55(4):880-907 October.

³⁹ See on Arpanet history: <http://iml.jou.ufl.edu/carlson/History/arpanet.htm>.

Like the small groups who created the Arpanet, the Cyclades team worked with a collaborative and optimistic spirit and a keen sense of purpose that typically accompanies groundbreaking research. Former Cyclades members remember their work as a “conquistadores” and “cowboys” adventure, where they “have colluded as thick as thieves” and were constantly “on to something.” And they all remember that Pouzin was uncompromising: he did not make concessions, and he possessed an “instinctive, probably genetic” revulsion toward monopolies and those who made unwise technical decisions based on political motivations.⁴⁰

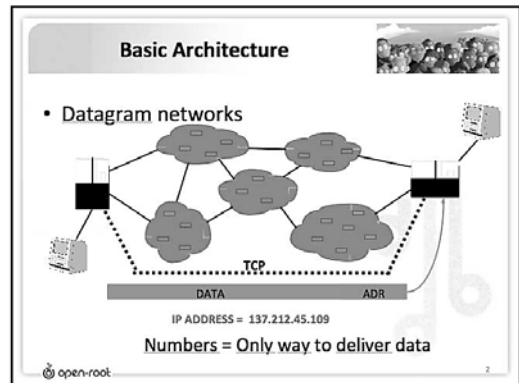
If this major invention was stopped at European political levels due to lack of strategic vision, the work was taken over by others and, with some modifications, it is this same Internet that we use every day. **A protocol that is unchanged since the 1970s and where notions of digital sovereignty, multilingualism and safety did not exist.**

Basics

1. How the data packets are sent

Everything you write or send in a web environment is immediately transcoded into binary digits to be sent as packets (datagram) to network machines.

“Humans love names, machines use numbers.”



2. How packets are managed

Until 1972 there were no naming rules in communications over the network: each machine had its nickname... which was immediately transcoded into numbers, n° IP (Internet Protocol).

Between fads (hundreds of *Dark Vador*), homonyms and confusion, hundreds of local directories were born. But, until January 1998, one man managed system consistency – Jon Postel⁴¹, a network pioneer.

⁴⁰ *Ibid*, note 2.

⁴¹ Jon Postel – <http://www.open-root.eu/about-open-root/news/the-innovation-award>.

He distributed domain names free of charge upon request to Internet users worldwide, mostly researchers and academics.

The Domain Name System (DNS)

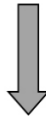
The DNS was launched in 1983 with name servers that allowed to prioritize searching and to better identify the machines connected to the Internet.

How does the DNS work?

The DNS decodes a name on the Internet as follows:

- .eu → 1st level domain name, called **Top Level Domain (TLD)**;
- .language → 2nd level domain name, called ‘Domain Name’;
- culture → 3rd level domain name, called subdomain, often www.

http://culture.language.eu



IP number – 137.212.45.109

(not the real number, just for demonstration)

N.B. The whole set of TLDs in the DNS is commonly called **Root**.

Humans often read from left to right, the DNS always reads names from right to left.

One Internet, multiple directories

The “unique” network linking the world is a philosophical vision. The Internet is made up of meshed networks (Catenet) linking name servers, application servers, emails, etc. The whole is managed by network engineers – the SysAdmin – distributed at the discretion of countries, research centers, universities. Simply having access to an IP number is sufficient to manage a network, internally (an intranet), private (an extranet) or in conjunction with one or more name servers also connected with an IP number (an internet).

This is always using the Catenet designed by the Cyclades team in the 70s – a network of networks – and the basic protocol is still the datagram.

Over the years the dominant discourse has changed: some speak of uniqueness of the network, the risk of fragmentation, parallel internet... which has no relation to the reality of an inter-connected network where information is exchanged in digital form and is routed only with IP numbers. **There is only one internet but multiple internet directories.**

Creating an internet directory requires:

- a good network connection;
- one or two IP numbers;
- a set of name servers (transcoding names to IP numbers) distributed over the world;
- an excellent network engineer for management (SysAdmin);
- a client population.

Once these basic conditions are met you have an “internet”. There are dozens of them, some known, others not: from the Google browser (Chrome) to commercial operators such as NameSpace through Open-Root, they are all open roots. This term is in opposition to the development of a “closed” internet, born from the ambition of a State to impose its governance on this network of networks.

History Back

1983–1989: Development

Initiated under INWG, the International Network Working Group, which became IFIP⁴² WG-6.1, the development of the Internet was done in the US through the development of TCP / IP by researchers with whom Louis Pouzin had shared his research on the datagram, Robert Kahn and Vinton Cerf⁴³. The Clinton administration prodded by Al Gore quickly understood the interest of this technology and very substantial funds were released to make... an American network. The rules in force in the US administration are applied, including the **ASCII**⁴⁴ coding decided by the Reagan administration in 1989.

⁴² <http://www.ifip.org/>.

⁴³ <http://qeprize.org/winners-2013/>.

⁴⁴ <http://www.asciicodes.us/>.

1995–1998: The monopoly

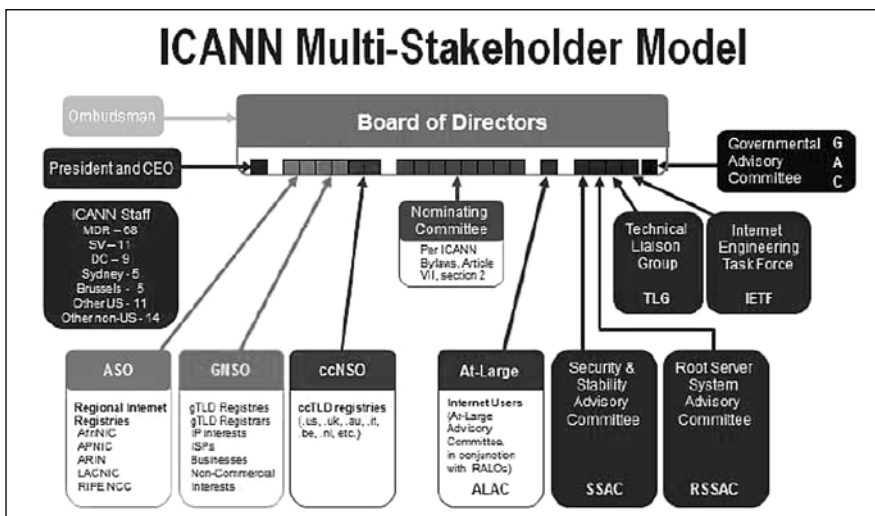
In 1998 the US government has implemented its decision to create an agency to manage domain names, at first and second levels: Internet Corporation for Assigned Names and Numbers (ICANN). A non-profit private corporation based in California but legally dependent on the US Department of Commerce (DoC). The legal form of this creation implies that there is no annual report or publication of budget and expenditures.

Meanwhile existing networks outside the ICANN remained in place, independent and interconnected to the base network, the Catenet.

Since 1998, ICANN has locked the domain names creation and management of TLDs by making it a very lucrative and opaque trade. Governments outside the US had no control or choice of their TLD, tariffs were imposed and the notion of “renewal” for the second level domain names appeared. The operator of a TLD is becoming sole master on board in creating a competitive environment with a rule of first come, first served. The prohibition of homonyms and a single directory on a global level have largely favored the emergence of a black market and the development of businesses related to the diversion of coveted domain names.

Commerce has taken over the management of the network for the benefit of enterprises in a monopoly position.

ICANN has taken a political importance in the world of the Internet and its dozens of committees and organizations make it a nebula of acronyms incomprehensible to the uninitiated.



2003–2005: There comes the competition

By 1998 governments were worried not having control of their TLD and being excluded from the management of the ICANN internet. The United Nations has been seized of this issue and in 2003, the WSIS⁴⁵ opened in Geneva under the aegis of the UN, including governments, civil society, technical communities, and business.

This was the start of awareness and protest from countries that did not tolerate any more not being able to manage their own internet. In fact, management should be understood as the management of their country TLD, which until 2003 was operated in California.

The second phase of the Summit in 2005 led to heated discussions and even if the US government appeared to give in on the form, nothing changed in substance: the “root” is always unique and always managed by a structure in California under the authority of the US Department of Commerce.

The usefulness of UN Summits

If apparently nothing has really changed for 10 years, it is during these meetings that awareness was built about the problem of multilingualism and unequal treatment of developing countries facing the US and Anglo-Saxon countries.

The US government has made the front face of criticism, the need to move forward and find solutions prevailed: if the dam does not move, bypasses are created.

That is why actually a number of improvements were observed, including solutions that help multilingualism and independence.

The Chinese example

因特网

What is this?

It is the Chinese internet, launched in 2006 by the government following the unsuccessful WSIS Summits. Decided in 2004, initiated in 2005, and launched in 2006 with a double directory:

⁴⁵ <http://www.itu.int/wsis/index.html> or https://en.wikipedia.org/wiki/World_Summit_on_the_Information_Society.

- one **in simplified Chinese** (in ASCII), reserved for a small number of Internet users and monitored requiring specific authorization for non-Chinese wanting to manage a website (ICP Number⁴⁶). Very few name servers for exchanges with ICANN, the TLD is .CN.
- the other **in traditional Chinese** (in Ipv6⁴⁷), with a national directory without direct access to ICANN servers. Accessible by default to all Chinese from mainland China, the TLD is .com.cn but only .CN is visible.

It is an Open Root, managed at governmental level.

This is a political choice to stand out from the US government, but the reason for this double index is Cultural and Linguistics. The traditional language is that of millennia of literary and poetic production, also that of the Chinese Pharmacopoeia.

Open Roots, an unknown reality

An Open Root, this is when an operator uses the Internet (base Catenet) with name servers different of the ICANN closed-system.

It is a reality in the Internet world since the mid-90s, often created and used for niche markets.

In 2012 there were over 50 Open Roots operators, each with a specific economic model and industrial customers, SMEs or associations.

Among the existing open roots, we only mention the following TLDs:

**AKADEMIE AGE AGENCY AFRICA ANCIENT ARTISTS AUCTION
BEER BICYCLE BOOKS BUDAPEST BRASIL COFFEE CULT CAPITAL
CASINO GAMES GRAPHICS DICTIONARY EROTIC FILM HISTORY
JAZZ GUITAR MEDICAL LIBRARY KIDS OCEAN NGO NIGERIA
PRIVACY SCHOOL SHAREWARE SKATE SVERIGE UNDERGROUND
THEATRE WINE,**

and this list is not exhaustive.

On the occasion of a lawsuit filed by one of these operators – Name Space⁴⁸ – against ICANN, we discover the list of their managed TLDs of which more than

⁴⁶ ICP Number is visible in the footer of all websites managed by “non-chinese”, it is a direct link to the Ministry of Home Affairs and propaganda.

⁴⁷ Ipv6 : <https://en.wikipedia.org/wiki/IPv6>.

⁴⁸ See ICANN/NameSpace history:http://www.open-root.eu/IMG/pdf/NameSpace_Complaint_10-1012.pdf.

189 exist or will exist within ICANN: one more proof that directories are not exhaustive and can coexist without problems in the digital world of the web.

Internet is worldwide. Usage is often local.

Google's Open Root, an exception

When using the Google browser – Chrome – you are in an Open Root, outside the ICANN root. In hiding Google takes over your computer and modifies the login information

(No. IP 4.4.8.8 or 4.4.4.4): You are then the only sphere in which Google has access to your browsing for its own profit only. An agreement with ICANN makes this navigation completely transparent.

Navigating with an Open Root

Being in an Open Root is to use different name servers from those of ICANN. It is a user's choice who must change the DNS number of his device (computer, tablet, smartphone), This is done during the first connection, usually with an exe or APP (IOS – Android).

But an Open Root can contain several roots, including that of ICANN, and the user then has access to the roots of several operators: Open-Root, ICANN, Chinese Root, Arabic, etc.

After this change has been made in the device the user has access to the whole reality of the Internet for its immediate and future navigations.

Indexing: false problem, true argument

Recurring argument, the issue of indexing sites and pages in Open Root is often associated in Europe with indexing in the Google search engine. But, like with other existing engines, only 5% and at the most less than 10% of web pages are listed. In addition, Google and the search engines do not index the Root, which is only an IP number, or the TLDs, but use only the content of the pages. The recent study of specialist indexing MOZ⁴⁹ lists the criteria taken into account by Google where TLD and Domain Name come in 8th place over 9.

Some site pages are referenced in Open Root in Yahoo!, others appear in Yandex or Bing, for no known reason.

⁴⁹ <https://moz.com/search-ranking-factors>.

Open Root benefits

As it stands, only the ICANN Root is offered by ISPs to reach a site. Proposing only a “closed” system monopoly is an anomaly that locks users into a proprietary system.

Open Root is an original economic model for creating innovative services: freedom to manage one’s naming with the ability to create homonyms in the same way as with brands; develop sites in native languages for a real multilingualism (possible for all scripts). It is a model that preserves their personal data and choosing the level of visibility on the Internet.

In the example of Root-Root we can list a few of these advantages:

- Being protected from spammers and phishing attacks (website diverting users to pirate sites), the IP number is not listed in the mass mailings.
- Do not depend on a single provider, a monopoly,
- Choose TLD without pressure, with negotiable prices,
- Control the management of one’s naming since when buying a TLD one can create as many “domain names” as necessary, free of charge.
- The “domain names” cease to be speculative issues and can be created for real needs, in the language and script necessary. If used for one-off events they can be abandoned without risk of being taken over by a competitor.
- Select clients’ area, its degree of openness in ICANN’s customers.
- Working with other Open Roots.
- Last but not least, prevent surreptitious stealing of privacy data within the ICANN DNS (RFC 7626⁵⁰), **Request For Comments** (RFC⁵¹), are Internet rules.

Some examples

The examples of Open Roots include (web addresses accessible after changing the IP number, provided to the Open-Root users or on request):

- **http://www.QePrize** (Open-Root root, special gift for HM Queen Elizabeth II);

⁵⁰ <https://www.rfc-editor.org/info/rfc7626>.

⁵¹ https://en.wikipedia.org/wiki/Request_for_Comments.

-
- <http://www.dreyfus> (Open-Root root);
 - <http://uyghurensemble.uu> (Dot UU does not exist in the ICANN root, Open-Root root);
 - **Beijing University of Chemical Technology** (Chinese root);
 - <http://tricycle.ti> (Open-Root root);
 - <http://www.jaitoutlu> (Open-Root root for “*Le Monde des Possibles/Semantis*”); and...
 - **www.open-root.**

Conclusion

The domain name market opens up for all kinds of trades and company size. It is no longer the monopoly of major US giants associated with global mass surveillance. User groups or national infrastructures may develop their own security rules and deal with their customers in their own languages.

This is a way to a user-centric worldwide communication system, one of the WSIS objectives.

For a country this is the pledge of her digital sovereignty, out of NSA and FBI reach.

For a non-ASCII speaker, it is the ability to communicate with others in his language.

For an association or a company, it is a predictable budget and an opening towards innovation and creation.

For a user it is the guarantee of an ethical navigation, fast and innovative.

Using Open Roots is a cultural break similar to that of Open Software against the Microsoft monopoly!

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The Global Contention for Cyberspace and Languages

Ladies and gentlemen,

I represent the Institute of Scientific Information on Social Sciences at the Russian Academy of Sciences – to be more precise, its Centre for IT Studies, a small agency engaged in research on the philosophy and methodology of information sciences. Its duties include the organization of extensive interdisciplinary discussion of related problems.

I have taken part in the events organized by the Russian Committee of the UNESCO Information for All Programme since 2013. I dedicate my address to the methodology of preserving and developing languages in cyberspace.

To make it understandable, I have arranged my address as answers to three questions:

1. Why are ICTs still used to build up some nations' and regions' impact on others despite the decisions of the World Summit on the Information Society?
2. Does the preservation of minority languages influence the change of the language situation under globalization?
3. How does further development of ICTs threaten human languages?

1. Why are ICTs still used to build up some nations' and regions' impact on others despite the decisions of the World Summit on the Information Society?

As it became clear in the few last years, global information society's development differs from the forecasts of 10–15 years ago, as reflected in the WSIS Declaration of Principles (Geneva, December 12, 2003). “We are firmly convinced that we are collectively entering a new era of enormous potential, that of the Information Society and expanded human communication. In this emerging society, information and knowledge can be produced, exchanged, shared and communicated through all the networks of the world. All individuals

can soon, if we take the necessary actions, together build a new Information Society based on shared knowledge and founded on global solidarity and a better mutual understanding between peoples and nations. We trust that these measures will open the way to the future development of a true knowledge society,”⁵² it says in Para 67.

It is an open secret that the principles proclaimed in Geneva and later Tunis are broken again and again, and sheerly ignored occasionally. The social media are used to organize mass protest action, pressure national governments, and sometimes even overthrow them. Developed countries’ secret services shadow Internet users en masse, including their own citizens and strategic allies.⁵³ Ten or more armies have established cybernetic units to protect own computer networks, search for the enemy’s weak points and, when necessary, deliver a blow on the enemy information infrastructure. The attack on the Iranian nuclear projects with the Stuxnet computer virus in 2010 was one of the first successful operations by cybernetic attack weapons. The virus disabled about a thousand centrifuges to put the Iranian nuclear programme’s clock two or more years back. Information technology experts assume that warfare in cyberspace is underway⁵⁴.

We are talking about the preservation and development of languages in cyberspace – but what is cyberspace? The conclusion of the UNESCO Recommendation concerning the Promotion and Use of Multilingualism and Universal Access to Cyberspace (2003) defines cyberspace (c) as a virtual world of digital or electronic communication connected with the global information infrastructure⁵⁵. Thus, cyberspace is the virtual world of communication to the other side of global information infrastructure. What, now, does it mean to be “to the other side”? Let us turn for the answer to William Gibson, the Canadian science fiction author who invented the word “cyberspace” 30 plus years ago.

As he recollected in an interview with *The Paris Review*, published in a summer 2011 issue, in the early 1980s “I was painfully aware that I lacked an arena for

⁵² Декларация принципов Всемирного саммита по информационному обществу (документ WSIS-03/GENEVA/DOC/4-R. 12 декабря 2003 года) // Формирование информационного общества в XXI веке / Российский комитет Программы ЮНЕСКО «Информация для всех»; Российская национальная библиотека; Сост. Е. И. Кузьмин, В. Р. Фирсов. – СПб.: Изд-во «Российская национальная библиотека» 2006. – С. 567.

⁵³ Гринвальд Г. Негде спрятаться. Эдвард Сноуден и зоркий глаз дядюшки Сэма. – СПб.: Питер, 2015. – 320 с.

⁵⁴ Ализар А. Stuxnet был частью операции «Олимпийские игры», которая началась ещё при Буше [Электронный ресурс]. – Access mode: <https://xakep.ru/2012/06/02/58789/>.

⁵⁵ Рекомендация о развитии и использовании многоязычия и всеобщем доступе к киберпространству (принята 15 октября 2003 г.) [Digital resource]. – Access mode: http://www.un.org/ru/documents/decl_conv/conventions/multilingualism_recommendation.shtml.

my science fiction <...> The spaceship didn't work for me. I needed something to replace outer space and the spaceship.

"I was walking around Vancouver, aware of that need, and I remember walking past a video arcade, which was a new sort of business at that time, and seeing kids playing those old-fashioned console-style plywood video games <...> Even in this very primitive form, the kids who were playing them were so physically involved, it seemed to me that what they wanted was to be inside the games, within the notional space of the machine. The real world had disappeared for them – it had completely lost its importance. They were in that notional space, and the machine in front of them was the brave new world.

The only computers I'd ever seen in those days were things the size of the side of a barn. And then one day, I walked by a bus stop and there was an Apple poster. <...> Everyone is going to have one of these, I thought, and everyone is going to want to live inside them. And somehow I knew that the notional space behind all of the computer screens would be one single universe. <...> But what was more important at that point, in terms of my practical needs, was to name it something cool, because it was never going to work unless it had a really good name. So the first thing I did was sit down with a yellow pad and a Sharpie and start scribbling – infospace, dataspace. I think I got cyberspace on the third try, and I thought, Oh, that's a really weird word. I liked the way it felt in the mouth – I thought it sounded like it meant something while still being essentially hollow."⁵⁶

As Gibson testifies, it takes two ingredients to produce the virtual reality of cyberspace: the technological basis of the machinery processing information (or signals, to be precise) and human imagination. Cyberspace vanishes as soon as information infrastructure goes wrong. It also goes wrong when the machinery works but people go. It is people who use technology and create the worlds to live in and communicate.

Importantly, cyberspace according to Gibson does not exist objectively. It is a mass hallucination, as he said in *Neuromancer*, his 1984 novel: "The Matrix has its roots in primitive arcade games, in early graphic programmes and military experimentation with cranial jacks <...> Cyberspace. A consensual hallucination experienced daily by billions of legitimate operators, in every nation, by children being taught mathematical concepts... A graphic representation of data abstracted from banks of every computer in the human

⁵⁶ William Gibson. *The Art of Fiction*. No. 211. Interviewed by David Wallace-Wells [Digital resource]. – Access mode: <http://www.theparisreview.org/interviews/6089/the-art-of-fiction-no-211-william-gibson>. See also a concise Russian translation of the interview: <http://cyberclock.cc/forum/showthread.php?t=708>.

system. Unthinkable complexity. Lines of light ranged in the nonspace of the mind, clusters and constellations of data.”⁵⁷

Let us turn again to two mandatory components of cyberspace: the information infrastructure and human imagination. It is easy to see that the former is an artifact, i.e., product of human activity, while the latter can be manipulated or at least duly channeled – which means that to take hold of the information infrastructure and guide its users’ imagination means to rule the world. It is quite feasible today.

Twitter revolutions, global online shadowing, and cyber weaponry all testify to technological control aimed at unlimited power. It certainly has no bearing on the creation of multiform inclusive, open and just knowledge societies. Regrettably, UNESCO cannot do much for practical opposition to these negative trends: first, it has no control of information infrastructure and, second, it addresses the best in human nature, and does not stoop to simulation, which it regards as unethical.

Who, in the final analysis, stands to gain with the Global Information Society project? These are the best-developed nations, whom the WSIS decisions enable to get all the other nations into the orbit of their own technological development on a legal basis⁵⁸.

2. Does the preservation of minority languages influence the change of the language situation under globalization?

As we see, cyberspace enhances the human potential in the respect of good and evil alike, so it can hardly make a wand to transform the world according to the laws of truth, mercy and beauty. On the contrary, the language situation in cyberspace structurally repeats its real-world prototype.

The three Yakutsk conferences on linguistic and cultural diversity in cyberspace – in 2008, 2011 and 2014 – said much about the support of minority languages, and we can only regret that no one cared to describe the actual correlation between languages under globalization.

⁵⁷ W. Gibson. *Neuromancer* [Digital resource]. – Access mode: <http://www.lib.ru/GIBSON/gibso01.txt>.

⁵⁸ See: Черный Ю. Ю. *Размышления об информационном обществе // Интернет и социокультурные трансформации в информационном обществе: Сборник материалов международной конференции (Южно-Сахалинск, 8–12 сентября 2013 г.) / Сост. Кузьмин Е. И., Паршакова А. В. – М.: МЦБС, 2014. – С. 46–60; Он же. Информационно-коммуникационные технологии (ИКТ) как инструмент геополитической экспансии развитых государств // Сборник материалов XVI конференции «Наука. Философия. Религия»: Человек перед вызовом новейших информационных и коммуникативных технологий (г. Дубна, 21–22 октября 2013 г.). – М.: Фонд Андрея Первозванного, 2014. – С. 56–69.*

However, modern research had elaborated a relevant theory: Dutch sociologist Abram de Swaan's concept of the world language system⁵⁹.

He proceeded from the functional-structural approach when, in 1993, he began to elaborate a model of the global language system⁶⁰. In 2001, he published his achievements in the book, *Words of the World: The Global Language System*⁶¹. His basic idea is that “the multilingual connections between language groups do not occur haphazardly but, on the contrary, they constitute a surprisingly strong and efficient network that ties together – directly or indirectly – the six billion inhabitants of the earth.”⁶²

De Swaan's concept sociologically modifies the world-systems theory to take stock of relationships between the languages of the world. They divide in four groups according to their influence on global developments:

1) *peripheral languages* – an overwhelming majority of the world's languages: approximately 98% of the total, spoken by 10% of mankind. These are mostly “languages of conversation and narration rather than reading and writing, of memory and remembrance rather than record.” They are in danger of becoming extinct with increasing globalization as more and more of their speakers shift to central languages for communication;

2) *central languages* – the national and official languages of particular countries: approximately 100 languages spoken by 95% of mankind. They are the so-called “languages of record”. Much of what has been said and written in those languages is saved in newspaper reports, stored in archives, and included in history books, collections of the “classics”, etc.

Many speakers of central languages are multilingual as native speakers of a peripheral language or of the central language who have learned a supercentral language;

3) *supercentral languages* – widespread languages serving as connectors between central language speakers. De Swaan enumerates 13 such languages

⁵⁹ *Global language system* [Digital resource]. – Access mode: https://en.wikipedia.org/wiki/Global_language_system. See also: Гураль С. К., Смокотин В. М. Язык всемирного общения и языковая и культурная глобализация // Язык и культура. – Томск, 2014. – № 1 (25) [Digital resource]. – Access mode: <http://cyberleninka.ru/article/n/yazyk-vsemirnogo-obscheniya-i-yazykovaya-i-kulturnaya-globalizatsiya>.

⁶⁰ De Swaan, A. *The Emergent World Language System: An Introduction* // *International Political Science Review* (1993). – Vol. 14. – № 3. – P. 219–226 [Digital resource]. – Access mode: <http://ips.sagepub.com/content/14/3/219.extract>.

⁶¹ De Swaan A. *Words of the World: The Global Language System*. – Cambridge: Polity, 2001. – 272 p.

⁶² *Ibid.*

in the contemporary world: Arabic, Chinese, English, French, German, Hindi, Japanese, Malay, Portuguese, Russian, Spanish, Swahili and Turkish.

These languages often bear colonial traces and “were once imposed by a colonial power and after independence continued to be used in politics, administration, law, big business, technology and higher education”;

4) *hypercentral language* – the language that connects speakers of the supercentral languages. Currently, it is English.

De Swaan introduces the Q value, a quantitative index calculated according to a special formula to characterize the communicative value of a language: the higher it is the more popular the given language is. Naturally, English as hypercentral language has the greatest Q while the peripheral languages have the lowest.

De Swaan uses the Q value to explain why a higher-level language is usually chosen for study: it is a symbolical treasure. Its working command is exchanged with time for material and cultural benefits.

De Swaan’s systems approach discloses the functions of languages of different levels in the world language system: the central and supercentral languages maintain the system while English, as the lingua franca, brings it into one whole while the peripheral languages account for diversity in its development.

At the same time, we can hardly say that the preservation and development of minority languages has a major chance to change the language situation under globalization. They are too closely connected with local communities to rival languages of a higher level in terms of communicative value. At best, they are the source of random borrowings, as for instance, the Hawaiian word *wiki*, “quick”, known to every Internet user.

From the point of the political economy and sociology of language (de Swaan’s terms), the preservation of minority languages is costly, while its effect is doubtful. Hence, the logic of globalization makes it a sublime cause but also something like swimming against the stream.

3. How does further development of ICTs threaten human languages?

Possibly, cyberspace and ICT develop according to their own logic irrespective of our ideas of good and evil. There is an opinion that information technologies develop to produce the learning artificial intellect that evolves at lightning speed to make man redundant as a preceding stage of cosmic evolution.

Let us not look so far into the future but limit our forecast to the next 10-15 years. Many experts expect the Internet, the way it is now, to evolve toward

neuron networks with the computer-brain interface switched to the global net⁶³. If this is so, it is quite probable that communication will no longer need a natural language.

In general, it may be pictured as follows: a global network connects the communicant and the recipient, each with a gadget that allows perceive the neuron activity of the communicant's brain, and transmit it to the recipient's brain. Such gadgets might be implanted in the body or placed in a helmet. Communication creates images or ideas in the transmitter's brain to be perceived as neuron activity to be automatically recognized by the computer-brain interface, transformed into a standard symbol and transmitted in the network, with reverse activity at the other end.

The extension of the human communicative potential with gadget-controlled telepathy means the borders of the human nature are crossed. Feelings and ideas will be coded as before but humans will delegate it to machines. The net will open the entire humanity's psyche to the holders of the information infrastructure. Many experts regard English as the language of global communication as the worst threat to multilingualism. I think the future has much greater dangers in store.

The United Nations and the European Union are implementing their own projects to decode the brain's neuron activity⁶⁴, just as they worked at the information infrastructure in the early and mid-1990s. We may expect that what appears as unfeasible now will be routine reality in the future.

By way of conclusion, I would like to call on all my colleagues to work more actively at the methodology of the preservation and development of languages in cyberspace. I think it would be instrumental to combine practical work to preserve and develop particular languages with philosophical, sociological, linguistic and other scholarly approaches so as to deepen the overall vision of the situation, and evaluate the prospects of further efforts.

⁶³ See: Митин В. Нейронет (Neuroweb) станет следующим поколением Интернета [Digital resource]. – Access mode: <http://www.pcweek.ru/idea/blog/idea/7022.php>.

⁶⁴ See: The Brain Initiative [Digital resource]. – Access mode: <http://www.braininitiative.nih.gov/> (President Barack Obama Administration project initiated on April 2, 2013). The Blue Brain Project [Digital resource]. – Access mode: <http://bluebrain.epfl.ch/> (European project of human neocortex computer modelling, launched by IBM and the Swiss Federal Institute of Technology, Lausanne).

SECTION 1. LANGUAGES AND EDUCATION

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(Yakutsk, Russian Federation)

Russian, Yakut and Other Languages in the Educational System of the Republic of Sakha (Yakutia)

Two of Russia's presidential councils – for interethnic relations and for the Russian language – gathered for a joint session on 19 May, 2015. Addressing the gathering, President Vladimir Putin said: “For Russia with its ethnic and cultural diversity and its highly complex national government system, a balanced and efficient language policy is, clearly, one of the key priorities. The preservation and advancement of the Russian language, along with all the other languages spoken in this country, are tasks crucial to harmonising interethnic relations, ensuring civic unity, and consolidating Russia's national sovereignty and integrity.”

In my report, I would like to expand on projects to sustain the country's cultural and linguistic diversity, citing as an example some of the regional initiatives recently launched in the Republic of Sakha (Yakutia).

Thanks to the Russian Committee of the UNESCO Information for All Programme (IFAP) and the Interregional Centre for Library Cooperation, Yakutia has been selected three times (in 2008, 2011 and 2014) as the venue of large-scale international conferences on linguistic and cultural diversity, held under the aegis of the UN's cultural and scientific agency and the Russian government. All the three forums culminated in the adoption of important international documents – the Lena Resolution (2008), the Yakutsk Appeal (2011), and the Yakutsk Declaration (2014).

With support from the UNESCO Office in Moscow, the republic has carried out a number of diversity-related cultural and educational projects aimed, specifically, at preserving the endangered Yukaghir language, developing nomadic schools, and raising the professional competence of teachers based in sub-Arctic regions, to give just a few examples.

Yakutia has built its cooperation with UNESCO based on a systemic approach, and it is largely thanks to this approach that the central Yakut epic, *Olonkho*, has been recognised as a masterpiece of humanity's oral and intangible heritage

and the Cambrian-era geological monument Lenskiye Stolby, inscribed on the World Heritage List.

Also under UNESCO's auspices, Yakutia has for several years now been involved in a project on circumpolar cultures and their presentation at museums across the world. The UNESCO Moscow Office has assisted as well in the development and launch of the website kuyaar.ru, now operating in the Russian, Yakut, Evenki and Even languages. Yakutia's Republican Library, for its part, has created a Knigakan website, along with an interregional Web links portal for literature in the languages of small indigenous peoples of Russia's Far East, North and Siberia.

Moreover, cooperation on international projects has given a boost to some newer online projects, such as the children's educational Web portal Etnoshchkola (Ethnic School), operated by Yakutia's Ethnic Schools Institute, and Northeastern Federal University's multilingual Web links portal Arctic-megapedia.ru.

All the above achievements simultaneously reflect, create and develop favourable conditions for sustaining linguistic and cultural diversity across the Russian Federation and, specifically, in the Republic of Sakha (Yakutia) as a constituent entity. Importantly, though, Yakutia is not just one of the country's typical multilingual entities, with an ethnically mixed population. It is home to communities representing a whole number of indigenous peoples of Russia's Far East, North and Siberia.

The population of the Republic of Sakha (Yakutia) is estimated at 958,528, and includes as many as 129 ethnicities. Here are some of the most numerous:

- Yakuts (466,492 – 48.7%),
- Russians (353,649 – 37.0%),
- Evenki (21,008 – 2.2%),
- Evens (15,071 – 1.6%),
- Dolgans (1,906 – 0.2%),
- Yukaghirs (1,281 – 0.13%),
- Chukchi (670 – 0.07%).

The languages spoken in Yakutia belong to three different groups – Slavic, Turkic and Manchu-Tungus (Tungusic). The republic's actual linguistic diversity has been consolidated by its *de jure* multilingualism: Yakut (Sakha) enjoys official status along with Russian, and both are the languages of public

administration; five of the most common indigenous languages, too, are officially recognised (Even, Evenki, Yukaghir, Chukchi, and Dolgan).

The president of the Republic of Sakha (Yakutia), Yegor Borisov, holds the following view on languages: “There can be no competition between the languages... They should all co-exist peacefully and as full-fledged equals. We mustn’t give preference to any one language at the expense of the others.”

To achieve the strategic goals of this language policy, authorities have prepared enabling legislation; appropriate agencies have been set up, and funds allocated. Also, substantial academic and information resources have been put together to tap into along the way.

Language policy guidelines

Here are some of the major acts that constitute the republic’s regulatory basis:

- Republican Constitution (Supreme Law of the Land) (1992);
- Language Law (1992);
- Indigenous Language Status Law (2004);
- Principles of Language Education at School (2001);
- “Preserving, Teaching and Advancing Official Languages in the Republic of Sakha (Yakutia): 2012 through 2016”, a subprogramme to the government programme “The Advancement of Education”.

In 2001, the President of Yakutia issued a decree proclaiming 19 November as Russian Language Day – timed to coincide with the birthday of Mikhail Lomonosov [an 18th-century Russian scientist, scholar and man of letters considered Russia’s first linguistic reformer].

In 2002, a presidential Council for Language Policy was set up in the republic.

Major academic and information resources

The following institutions should be mentioned:

- Northeastern Federal University;
- Institute for Northern Indigenous Community Studies, Russian Academy of Sciences’ Siberian branch;
- Institute for Advancing Public Education and Upgrading Teaching Staff;
- Ethnic Schools Institute;

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- Ethnic publishing house Bichik;
 - Ethnic broadcasting company Sakha.

In a bilingual and multilingual environment, expanding the use of a specific language is achievable only if instruction is provided via commonly accessible, all-age training courses, in line with UNESCO's Lifelong Learning principle. We believe it is through a balanced combination of formal, non-formal, and informal lifelong learning that a person can be effectively integrated into a multicultural community.

In Yakutia, language courses offered as part of formal education are typically designed in a multicultural and multilingual format.

An integrated language education system is comprised of the following modules:

- Learning one's native language (Russian, Sakha, Even, Evenki, Yukaghir, Chukchi, or Dolgan);
- Learning Russian – the national and a major official language, as well as the country-wide lingua franca – at Yakut-oriented schools;
- Learning Yakut as a major official language at Russian-oriented schools;
- Learning foreign languages (English/French, German, Japanese, Chinese, Korean).

Now let me cite specific subject areas that form the nucleus of language education in Yakutia.

Russian language. Being the national language as well as a major official language in Yakutia, it enjoys priority status in the republic as well as elsewhere in the Russian Federation. Republican schools teach Russian using two major models. One is meant for teaching Russian as a native language to students who have it as their mother tongue and the language of schooling. The other teaches Russian as a major official language to Yakut native speakers. There is also another model, one designed for indigenous communities and Yakut native speakers with Russian as the language of schooling. This latter model is hardly distinguishable at this point, though. Its distinctiveness remains weakly pronounced in school curricula, as well as in teaching methodology and final certification standards.

Native language. A language arguably reveals the spiritual wealth of the culture to which it belongs. Conscious efforts to study one's native language can therefore help individuals build their self-identity. This approach defines native language & literature studies as part of the foundation for an integrated

system of education in humanities. As such, they (studies) are included as compulsory in all major education programmes. In Yakutia, a whole number of languages are studied as native, including Yakut, Even, Evenki, Yukaghir, Dolgan and Chukchi.

The Constitution of the Republic of Sakha (Yakutia) in 1992 gave official status to Yakut, recognising it as a second public administration language along with Russian. It also introduced an alternative name for the language, Sakha.

The **Yakut/Sakha language** has an established literary form, which makes it possible for school authorities to have it taught as a native (or an official) language at every level of comprehensive and vocational education, while also providing students of Yakut ancestry with wide-ranging study programmes in their native language.

Along with the Yakuts, who live mostly in Yakutia, but also in neighbouring Russian regions such as Krasnoyarsk, Magadan, Irkutsk, Amur and Khabarovsk, the Yakut (Sakha) language is spoken by small indigenous communities, including Dolgans, Evens, Evenki, and Yukaghirs. Descendants of the ethnic Russian settlers who came along in the early period of Russian colonisation also widely use the Yakut language in their everyday life.

The language began to be taught on a mass scale in the 1922/23 school year. And 2014 marked 90 years since a pioneer system was launched in Yakutia for teaching Yakut literature and the language. Over the decades, this system has expanded to incorporate – along with classroom practice – teacher training and upgrading courses; language-related activities, such as student competitions and republic-wide literary and folklore events; and final certification, including the standardised national academic achievement test, known by its Russian acronym, EGE.

Native language and literature courses for the indigenous population. These are provided as part of the programme at 38 comprehensive schools based in indigenous communities. The Even language is taught at 22 schools; Evenki, at 12; Yukaghir, 2; and Chukchi and Dolgan, at one school each. Fourteen schools offer several such courses, depending on their student body's ethnic composition.

Yakut (Sakha) as an official, public administration language. At schools where Russian is taught as the native language, Yakut courses are part of the curriculum, but offered as electives. Students who sign up are expected to acquire everyday communication skills in Sakha, as well as intercultural communicative competence.

Depending on one's native language's status and socio-linguistic situation, the regional education system (preschool included) offers 5 different educational models.

1. Education provided in Russian as the native language throughout the period of school studies.
2. Education in students' native languages (from grade Primary through 4, 7, or 9) with subsequent transition to Russian, starting from a certain stage. This model applies to Yakut-language schools based mostly in rural communities, as well as in the republic's capital, Yakutsk. Partially, it is also used in Even and Evenki communities.
3. Education offered in a non-native language that is spoken by a majority of the population and dominates professional education. This model is used for teaching Yakut schoolchildren in the Russian language in a multicultural environment as well as teaching indigenous students in Yakut and Russian, depending on the socio-cultural situation.
4. Education provided in Russian or Sakha as a non-native language at schools where a native indigenous language is absent from the curriculum for reasons such as lack of teachers or lack of interest among the students and their parents.
5. Education in Russian and in English, or some other foreign language. This model, yet to be put into practice, is linked with the establishment of an International Arctic School, a project I am going to describe later on in this paper.

The first three models are the most wide-spread; they ensure that a balanced and efficient system is created for bilingualism and multilingualism in the republic.

Informal education offered as part of extracurricular activities is an invaluable resource for introducing our children to linguistic and cultural diversity. The various interest groups and art studios create an environment where younger generations could explore the linguistic and cultural heritage of indigenous communities, as well as Russian culture and the language. There are also opportunities to study some of Russia's regional and minority languages, such as Tatar, Buryat and Armenian, as well as foreign languages. An emphasis here is placed on practical, activity-based learning.

Arts and culture institutions – theatres, museums, libraries, etc. – have a very special role to play in developing cultured speech skills and cultural

competence. And reading is one of the major resources in family education and in self-directed learning (autodidacticism).

Yakutia is one of the Russian Federation constituent entities where promotion of reading is among the regional government's priorities. In 2012, it approved a Concept and a Plan of Actions for encouraging reading among the young. Libraries are, clearly, among the institutions most closely involved. The Republican Library has issued a list of 100 regionally published books for supplementary reading. And the publishing house Bichik has provided its readerships with a vast choice of children's fiction and popular science books in all the official languages, including those used in public administration.

Other sources of informal education include mass media, various educational events, and international and domestic tourism. This latter makes Yakutians more curious about the languages and culture of other countries while also inspiring foreign visitors to explore the local natural and cultural wealth. Among the republic's many treasures is the traditional culture and lifestyle maintained by descendants of early Russian settlers. Yakutia's Russian "old-timer" community, as it is known, dwells in the village of Russkoye, in the republic's north.

In recent years, informal education has become an important component of language education, one promoting bilingualism and multilingualism from an early age.

The past few years have also seen a resurgence in business contacts with countries of Asia and the Pacific Rim, with Yakutians, as a result, now studying more foreign languages than they used to. Along with English, German and French, Yakutia's public schools now provide courses in Far Eastern languages, including Chinese, Japanese and Korean, as second foreign languages. But leadership in foreign language teaching belongs to the republic's 17 member schools of the UNESCO Associated Schools Project Network (ASPnet).

In September 2014, the Sakha government concluded a cooperation agreement with the Moscow-headquartered Pushkin Institute of the Russian Language, with a view to streamlining the mechanisms for compliance with language education standards.

And in April 2015, on the sidelines of a Moscow International Education Show, Sakha's Education Ministry signed a Protocol of Intentions with the Pushkin Institute, the Russian Academy of Sciences' Linguistics Institute, and the Russian Committee of the UNESCO Information for All Programme.

At the moment, we are working to promote 4 international education and culture projects, code-named as follows: "Nomadic Schools", "Teaching in

Circumpolar Communities”, “International Arctic School”, and “International Arctic Centre of Culture and the Arts”.

We regard nomadic schools as an inclusive education model; it has now entered a new stage in its development thanks to joint efforts by the Sakha government and UNESCO Moscow Office. Nomadic schools seek to combine traditional indigenous community schooling with innovative educational techniques and to implement tailor-made educational programmes in harmony with federal educational standards.

Our project “Teaching in Circumpolar Communities” is aimed at raising the quality of education through higher teacher competence and broader networking across the circumpolar community.

An International Arctic School and an International Arctic Centre of Culture and the Arts are being created at President Borisov’s initiative. The former is intended to develop the personality potential of children in sub-Arctic areas, doing so through an integrated educational model (by federal and international standards alike), along with International Baccalaureate (IB) programmes. And the International Arctic Centre of Culture and the Arts will be making wide-ranging creative efforts to sustain and to promote further development of Arctic communities’ cultures, as well as to innovate socio-cultural ideas as a powerful resource for the advancement of the circumpolar zone. The Centre’s priorities will involve, among others, carrying out research in humanities, developing innovative artistic forms based on traditional culture, and cooperating with interstate and public organisations committed to finding solutions to Arctic-related problems.

In conclusion, let me put forth some of our proposals concerning the preservation of linguistic and cultural diversity.

First of all, we invite representatives of sub-Arctic regions, in Russia and the world, to become our partners on the International Arctic School project, initiated by the Sakha government and approved by the Northern Forum.

Secondly, we suggest that all those concerned should cooperate on the project to create an online Atlas of the Languages of Russia’s Ethnicities, in keeping with the Protocol of Intentions signed as part of a recent Moscow International Education Show.

Thirdly, we propose developing, through joint effort, an international project to create innovative teaching techniques for balanced bilingualism and multilingualism from an early age.

Fourthly, we deem it necessary to set up a methodology consortium, Indigenous Languages of Russia. It could provide an optimal mechanism for building a nation-wide academic system of indigenous language and literature education, in line with federal school standards. The idea was included in the final communique of a recent conference “Language Policies in Education: A Tool for Forming a Civic National Identity”. The event took place in Moscow in June 2015, under the auspices of the Ministry of Culture of the Russian Federation and the Federal Agency for Ethnic Policies.

What we aspire for is a fruitful dialogue, through which we could share positive experience in implementing collaborative projects, including ones aimed at promoting, supporting and advancing the Russian language.

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Role of Family, Society and State in Shaping Citizens as Well-Rounded Language Users in a Multilingual Nation

According to its constitution, the Russian Federation is a welfare state, whose policies are aimed at ensuring that all citizens are provided with a decent quality of life and conditions for personal development. Generally speaking, to be able to fulfill his or her potential, every community member should be given quality preschool and school education as well as opportunities for higher education and for professional and creative self-expression.

In the multi-ethnic Russia, it is Russian that serves as the language for communication across the various cultures, as well as a major language of education and science. A good command of this language provides one with the freedom to choose a college or a university to study at, along with multiple options in terms of professional activity and residence.

A poor command, by contrast, considerably narrows one's opportunities for life choices in Russia. A citizen not proficient in Russian will face difficulties passing final examinations at high school (standardised national tests exist only in the Russian version), entering universities that provide education exclusively in Russian, getting a qualified job, and travelling inside the country.

Family, society and state are equally responsible for moulding the nation as a community of well-rounded language users. Each of these institutions should contribute its bit to the creation of conditions enabling each citizen to develop the whole gamut of communicative skills (primarily language-related), paramount for one's self-fulfillment.

Family is the environment where a child's primary, basic speech skills are formed, ones upon which his or her language proficiency will subsequently be built. For many of Russia's citizens, Russian is not their mother tongue or a

language spoken in the family, which means that its acquisition begins much later in life and on a smaller scale, if at all.

Children for whom Russian has not become a language of communication starting from primary school will later on face serious difficulties in pursuing further education and professional development. All non-Russian families living in Russia should therefore see it as a mission and a primary responsibility to create conditions for their children to develop as full-fledged bilingual speakers through upbringing, preschool education, and communication at home.

Families where Russian is used for inner communication, though, should have the same amount of responsibility in teaching the language to their young. Quite often, adult members use obscene language and employ lots of dialectical and vernacular expressions in the presence of the younger generation, thereby making it hard for the kids to learn standard Russian. In an early age, children are not aware of the difference in language registers and they will absorb all kinds of conversations they happen to overhear, building their vocabulary and speaking style on the basis of their family's speech, as well as that of their inner circle.

Every family living in Russia is responsible for introducing its children to literary Russian and instilling in them a good taste for literature. Neglecting this responsibility, shouldering it onto society and state is fraught with negative implications: lacunae in a child's cultural development will be much harder or impossible to fill in at subsequent stages in life.

Community, meanwhile, is supposed to generate value systems and standards of high culture. It should be responsible for producing basic societal notions such as decency, good manners, literary language, ethnic and cultural identity, patriotism, humanism and tolerance and for transmitting these and other values in every form of social activity, primarily through well-written literature.

These days Russian-language journalistic content, fiction and business literature abound in distortions of the linguistic standard, and the quality of much of that output is approaching a critical point where some adverse qualitative effects will become inevitable. To put it otherwise, a language is changed by modern speech practices, especially by mass communications, and it is society that sets vectors for the change.

State's relevant role is spelled out in the federal legislation related to education, to the national language and the languages of ethnic minorities. It shall guarantee to all citizens equal opportunities for education, professional and creative development in the Russian language. It shall also create an appropriate educational infrastructure, train teachers and set standards for the school curriculum, providing a high level of teaching the Russian literary

language from the preschool level through to university. Russia's multi-ethnic character imposes additional obligations on the state in terms of creating necessary conditions for the development of full-fledged bilingualism in regions where Russian is not a language used for family communication predominantly.

The stage for successful acquisition of the Russian language at school should be set at the preschool stage. In some of Russia's regions, primarily in out-of-the way and rural areas, children of preschool age hardly speak any Russian. But early childhood is crucial to normal speech development. It is therefore deemed necessary and efficient to include Russian-language modules into the study programmes of preschool educational establishments. Arranging game-based classes in Russian, with the use of methodology tools relevant to the modern-day state of linguistics and pedagogy, will enable children to develop basic communicative skills and to get prepared for entering a school where most subjects are taught in Russian.

The implementation of such programmes involves final assessment of the speech development in children of preschool age, in their native language as well as in Russian. Within the system of assessing a child's functional preparedness for school education, the results of language testing should serve as the key indicators and a major prognostic tool for predicting just how successful the examinee's further education in Russian is likely to be.

At the school stage, the optimal model for organising the learning process is one where all major subjects are taught in the Russian language (from the initial stage onward) whereas the languages and cultures of Russia's non-Russian communities are taught in-depth within the framework of specific subjects (also starting from the initial stage). This model provides students with equal conditions and rights for education (including higher education) and employment and it also guarantees their right to learn their respective native languages, thus contributing to the preservation of traditional ethnic cultures.

The organisation of the learning process at educational establishments in a multilingual environment has a number of specific features. Along with communicating knowledge and teaching skills in their subject area, Russian-language instructors are also supposed to have their students develop communicative skills, often from scratch. Thus, teaching the Russian language in a multilingual environment is a complex, many-faceted process, one where the aim consists in both building the practical skills of using Russian in every aspect of speech activity and learning about the structure of the language. In working toward this aim, it is important to bear in mind the language situation in the given region as well as the students' age. This will allow to

form bilingual speakers' communicative competence necessary for their well-rounded development.

The preparation of teachers and managers for the education system in multilingual regions is a challenging and urgent task. One of the priorities here should be the creation of a system of continuous professional support of Russian-language instructors, teachers specialising in other subject areas, and school principals working in a multilingual environment.

Russian-language teachers should be prepared for teaching their subject in a multilingual class where the level of Russian language proficiency varies. A teacher's efforts in this case should be aimed at forming the practical skills of using the Russian language, with possible inter-language interference in mind, as well as at teaching the Russian language as a subject within the framework of national educational standards, one that is of paramount importance for personal and meta-subject development and performance.

Instructors in major subjects on the curriculum should be prepared for teaching students whose vocabulary and speaking skills in Russian are limited. It is important to realise that studying a subject involves mastering its specific language – something that is crucial to further professional education and to the development of professional communication competence. Basically, every teacher specialising in some particular subject area should also become a Russian language teacher to a certain extent (and a role model in terms of the language command) so as to enhance his or her students' competence for effective Russian-language communication in the area being taught.

The heads of educational establishments should know how to arrange the learning process in such a way that students could explore all major subject areas along with developing Russian speech competence and learning their native language and culture. Given that the school curriculum can be extended only so far, additional managerial training will be required for this task to be fulfilled.

It is important that the proposed measures of professional support should be systemic and ongoing rather than one-off. The nucleus of the system of continuous professional training of teaching and managerial staff should come in the form of open online educational environments that would provide access to upgrading programmes regardless of the user's place of residence.

Such a continuous teacher upgrading system will allow to provide a high level of instruction in a multilingual environment on the basis of modern methods of teaching bilingual children. In an open online educational environment, networking between teachers from various regions will enable effective sharing of expertise in teaching the Russian language as well as various subjects in Russian.

One example of such an environment is the website Education in Russian (www.pushkininstitute.ru), designed to assist in studying the Russian language and to provide professional support of instructors teaching Russian or in Russian. Also, the site has a large amount of open-source study programmes in various subjects. Its Russian to Children service, for one, allows to prepare students from an early age for education in the Russian language.

The modules are designed for self-learning as well as for studying with the help of a certified tutor.

Every course comes with relevant teaching aids: workbooks, drawings, diagrams, tables, cartoons, and a soundtrack. To study phonetics, for example, one can use an audio laboratory; grammar skills and vocabulary can also be practised using modern technology. At the end of each module, a student will be invited to take final tests in order to demonstrate the academic progress he or she has achieved over the course of the programme.

This website offers opportunities for distant upgrading and retraining of teachers of Russian as a foreign language. Overall, more than 4,500 teachers have by now been registered here as users, with 3,000-plus having completed one of the upgrading programmes offered.

Learning at this website is done in an educational environment with a convenient user interface and one that allows to effectively employ methods of hands-on education combining various forms of individual and group learning, creative assignments and online communication among teachers. The first final assessment on a distant teacher training course took place in the spring of 2015. Not only the training was done in the online mode, but so, too, was the defence of the graduation theses. Modern technology made it possible to turn the formal examination procedure into a mutually interested discussion of professional issues.

The Education in Russian website's technical capabilities are such that it can serve as an open educational environment for studying not just the Russian language, but any other subject in Russian, and is suitable not only for Russian language instructors, but for all counterparts who teach other subjects in Russian. It solves many systemic education-related problems facing the vast Russia, such as updating textbooks and teaching aids, pursuing on-location professional upgrading programmes, and providing continuous professional support for teaching staff. Being a flexible and fluid environment, this website will effectively respond to any needs and challenges that the education system may have to face up to.

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Developing Communicative Competence (Based on a Case Study of the Children's Mansi-Language Magazine Vitsam)

Ethnicity is fundamentally important to each and every of us; along with being a highly sensitive self-identity factor, our ethnic origins play a crucial role in determining where we belong in society.

The Mansi, which I myself belong to ethnically, is one of the small indigenous peoples populating Russia's North. Among the 12,269 Mansi people living today, less than a thousand speak Mansi, and the language has now found itself on the brink of extinction – a situation described as disconcertingly imminent a couple of decades ago. Back then, a group of community activists came forward to push for the linguistic and cultural revival of the Mansi and the related Khanty (both live in Western Siberia and are known collectively as Ob-Ugrians). The idea behind was to make it possible for younger generations of the native population to rediscover their roots. That campaign has eventually resulted in Ob-Ugrian communities reawakening to their heritage and beginning to revive their traditional economy, lifestyle, folklore, and language development trends.

The most endangered of the minority languages are normally ones absent from public education and the media. Luckily, in Russia's Khanty-Mansi region (also known as Ugra), we have radio and television outlets broadcasting in both Mansi and Khanty, as well as a Mansi-language newspaper coming out; book and scholarly research monograph publishing is ongoing; the Ob-Ugric Institute of Applied Research and Development has recently acquired a KAMIS 2000 museum software package, complete with a set of audio and video files featuring examples of folk literature. Khanty and Mansi are taught at schools across the province, alongside one other indigenous language spoken here, Nenets. All this gives reason to hope that the minority languages of the Ugra region will be preserved and developed.

These days, quite a few ethnic communities are trying to make sense of their cultural heritage. In so doing, they should keep in mind that the advancement

of a traditional culture depends largely on each individual bearer acting with the awareness of its value and in line with the principle “If not me, then who?”. And a major prerequisite for preserving any language is, of course, its active use and promotion.

Ugra’s Mansi-language newspaper, Luimaseripos, which has been around for quite a while now, is intended for adult readerships. But there was – until recently – a need for a children’s periodical, one whose target audience could also include preschool teachers, indigenous language and culture instructors and, of course, parents. Aware, as we were, of this need, we launched in 2014 a children’s monthly magazine, *The Vitsam (Drop)*, with a subsidy provided by the regional government.

The Vitsam is aimed at achieving practical results in Mansi language teaching, as well as promoting personal learning and development to maintain real-life use of the language. It features the following sections:

1. A photo and greetings from a renowned adult who is a culture-bearing native speaker of Mansi (1 page).
2. News content, complete with photo illustrations (2 pages).
3. A pictorial theme dictionary (2 pages).
4. Stories on local lore (1 page).
5. Must-knows: Stories on Ugra’s fauna.
6. My Drawings (2 pages).
7. Introducing the readership to children’s indigenous language and folklore groups (2 pages).
8. Colouring sheets and creative writing for children (2 pages).
9. Introducing oneself. Examples of children’s self-presentation (2 pages).
10. Mansi folk tales, short stories, poetry.
11. Puzzles, rhymes and limericks.

That kind of layout helps us a lot in encouraging Mansi preschoolers and schoolchildren to learn their native language. And the effectiveness of the learning process depends in no small measure on just how interesting and expressive our content presentation will be.

The Vitsam is an original educational periodical boasting vividly presented textual and pictorial content, which catches a young reader’s eye, motivates him/her in self-development, and orientates toward a successful result.

Mindful of age-specific cognitive development trends, we try to extensively use visual imagery and to reduce the amount of textual information for younger children, who find pictures much easier to learn from than text.

So as to gauge the magazine's efficiency, we regularly conduct surveys among our teacher and parent audiences. Most of the respondents point out that *The Vitsam* makes their children more eager to learn and more inquisitive, expanding their scope. The younger readers reportedly have little difficulty memorising Mansi words, so their vocabulary builds up quite fast; over time they also come to show a keen interest in their native culture, as well as in creative endeavours by peers, including stories, poems and tales written in Mansi.

Our mission is to promote Ugra's indigenous languages, culture, customs and traditional family values, passing the heritage on to younger generations. In modern-day life, individuals come to face new challenges, including career mobility, cultural awareness, and creativeness and creativity. And it is important to realise that spiritual values are closely related to inner harmony, which we cannot achieve without reconnecting with our native language and culture.

This is why we all strive for our children to dwell, from an early age, upon notions such as mother tongue and spiritual culture, so that their genetic memory gets activated now, while there are still some native speakers around to learn from and the memory of ancestral traditions is still fresh.

We are now working to create an online version of *The Vitsam* magazine – something that would let us enter cyberspace and find more friends among like-minded people who contribute to the preservation of indigenous languages all over our multilingual world.

SECTION 2. RESEARCH AND INNOVATION

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A Method for Data Sharing: Observation Based Estimation of Degree of Ease of Access to a New Internet Service

1. Introduction

Language Observatory Project (LOP) has been operating over ten years since it started in 2005. The project has two purposes: the first one is to assess the usage level of individual languages in cyberspace, and the second one is to show the unbalanced usage of languages in cyberspace (Mikami et al. 2005). In order to achieve these purposes, we constructed a way to observe these phenomena, and we have been operating bi-yearly observations. The results were shown by many of our collaborators. Nandasara et al. (2008) showed the Asian language distribution in cyberspace, and Mikami and Nakahira (UNESCO 2005) considered the relationships between socio-cultural domains (educational/occupational/public/personal) and language role domains (global/regional/official/minority), and showed unbalanced language roles in individual Internet domains. These results indicated that our detection method for usage level of individual languages should be reasonable.

1.1. Assessment indices: CDG index (2011)

Table 1. Framework of CDG index

	Access	Linguistic diversity	Secure and trusted
Resource	Accessible and affordance	IDN service	Security, stability, and resiliency
Contents	Openness of the network	Local language use	Trusted content

Table 1 shows the CDG index (Nakahira et al. 2011) developed by us in 2011. The framework of CDG index has two layers with three elements for each layer.

The resource layer has the following three elements:

- (r1) accessibility and affordance,
- (r2) IDN server, and
- (r3) security, stability, and resiliency.

The contents layer has the following three elements:

- (c1) openness of network,
- (c2) local language use, and
- (c3) trusted contents.

These elements are measured according to the following ways:

- 1) combining available public statistics, and
- 2) combining observables,

followed by complex validations.

There are many statistics for substratum, such as the number of population, the number of network usage, the number of cellular phone usage, etc. Some statistics indices could be used without any customization, such as IDN service or number of introduced security technologies, but others required customization and/or combination of some statistics indices before using them. Because of the shortage of public statistics for understanding these elements, we needed to observe them ourselves for customization/combination to get deep understanding of Internet use.

For example, the index concerning the Openness of the Internet measure – existence of divide because of unlaidd infrastructure – could be derived just from public statistics. However, in the case of the Openness of the Internet measure studied in (Nakahira 2012) in which the existence of isolated areas in the Internet for, e.g., popular services as well, it was hard to evaluate the measure solely by the available public statistics because of the inclusion of “isolated” status which could not be captured by them inherently. Instead, we introduced the index O_c as the Openness Index of country c ,

$$O_c = \frac{L_i}{N_c \times U_c}$$

where N_c , U_c , and $L_{c,i}$ are the population, the rate of spread of the Internet, and the number of Links per i th social media in the country c , respectively. N_c and

U_c could be obtained from the available public statistics. On the other hand, $L_{c,i}$ was not, but could be obtained through Link observations.

These observables are related to the use of the Internet. For this reason, we need observables to understand the elements of local language use as the linguistic diversity language in the Web distribution and the Internet resilience (Nakahira et al. 2015).

1.2. Understanding social systems: since 2012

During the construction of CDG index, we felt it necessary to reconstruct the whole framework of human behavior on the Internet. CDG index should reflect some aspects of human activities on the Internet and they had to be measured considering the context of human activities. The framework is called “e-Network” (Nakahira 2012), based on which observation of the Internet use has to be defined and conducted.

Figure 1 shows the framework of e-Network and its relationships to the CDG indices. Left side of the figure is the whole framework. The “e-Network” framework consists of four components, each of which is connected via media – represented as edges.

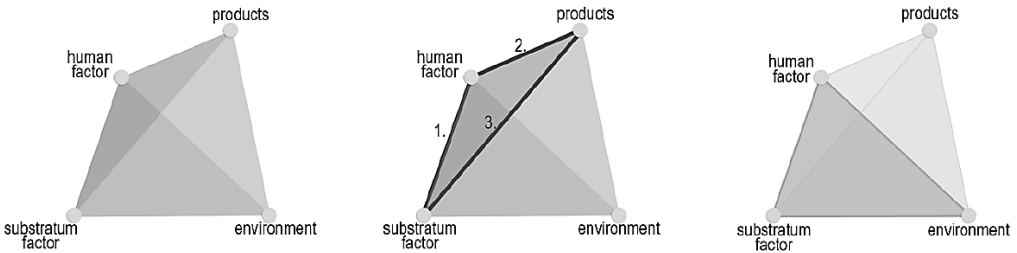


Figure 1. Basic idea of e-Network

The left tetrahedron shows the base model of the e-Network. The central one shows node–node interactions via an edge (media). The numbers attached to the edges represent 1) human factor–substratum interaction, 2) human factor–products interaction, and 3) substratum factor– products interaction, respectively. The right tetrahedron shows the three components’ interaction as a triangular plane, i.e., human factor–substratum factor–environment interaction.

The four components are human factor, substratum factor, products, and environment.

The component “human factor” is the component to be attributed specifically to human beings such as human activities and human intelligence, and is represented by the users. This is the most important component that creates the dynamics of producing/consuming information contents or social system, invoking the interactions between the human/human or human/substratum factors.

“Substratum factor” plays the role of the device for the human factor to perform some action. It interacts directly with the human factor. It consists of the clients that produce/consume products, servers that stock/consume products, and the Internet that circulates products. It is introduced and operated in a manner depending on the environment such as the social system or customs developed by the human beings.

“Products” is the information contents produced as a result of interaction between the human and substratum factors. It consists of the web pages, emails, software and so on. It triggers new interactions with the substratum factor by being consumed by the human factor. It can also contribute to the evolution/innovation of the substratum factor. “Environment” surrounds human and substratum. It consists of laws, freedom of speech, education, income, a custom, etc.

“Media” is the device which connects all components. It interacts semantically with the human factor, symbolically in connecting the human and substratum factors, and in an encoded form with the substratum factor.

We represent phenomena in the Internet by connecting these four components, and adjusting the strengths of the connection through media as represented by edges. As the result, the e-Network framework is represented by a tetrahedron.

The “e-Network” tetrahedron provides a viewpoint to define indices to observe the Internet phenomena. It suggests that it would be useful to construct indices for nodes, edges (results of two nodes interaction), and faces (results of three nodes interaction), individually, if we would like to make deep understanding of the Internet phenomena.

A node can be associated with primitive, directly measurable indices. Especially, there are many publicly available indices and statistics for the substratum factor such as ITU, all of which are easy to get. On the other hand, there are some indices hard to acquire, that are related to human behavior or products that are generated through human activities on the Internet, including the number of web pages/links/linguistics. We need to observe ourselves to derive these indices.

Observing node–node interaction is more complex. For example, network usage is the result of human–substratum factor interaction. Network usage derives several effects. Unless substratum – e.g. the Internet infrastructure, provider, personal computer, etc. – is unalaid, people cannot access the Internet though they want to use it. But if people do not want to use it in spite of becoming universal for substratum, the network usage does not grow. For the reason, network usage can be regarded as the result of human–substratum interaction. If we want to observe the index of network usage, we need to construct a new index from human demands and substratum universality. In the situation, human demands derive from the human factor, and substratum universality derives from the substratum factor. Considering in the same way as this, linguistic diversity on web pages regards as the results of human–products interaction. The central tetrahedron in Figure 1 shows the situation. Two nodes connect via media. In this case, media represents encoded information, including language texts or packets.

Most complex observation is the multi-nodes interaction. Usually, multi-nodes means three nodes. It represents a “face” on a tetrahedron. For example, we intend to generate new services on the Internet. The first step is human needs/wants. When someone notices new human needs/wants, they tend to be realized on the Internet sooner or later. Someone needs to develop products and serve via substratum. This situation is regarded as the result of three nodes – human factor, substratum factor, and products – interaction, which corresponds to a face on the tetrahedron. The right tetrahedron in Figure 1 shows this situation.

1.3. Proposed observation method for digital divide

Introducing the “e-Network” framework, the CDG index work is regarded as a part of the framework. Next step for understanding social phenomena on the Internet is to install observation, and develop a way to share the results. If we would like to be confident for the framework, any Internet phenomena should be explained with it. But there are many phenomena that have to be explained, thus we have to collaborate. Moreover, we believe understanding based on the framework should be valuable for addressing fundamental policy issues of the Internet phenomena, which become a social problem in digital/knowledge divide.

For observation, there are two ways. The first is to collect public statistics, such as those by ITU or research institutions. Many institutions tend to collect and publish valuable data, e.g.: number of packets, frequency of DDoS, protocol application usage, and so on. These data are collected in a reliable manner and homogeneously-covered. But they lack flexibility for observing sources or

materials. Moreover, if we catch actual conditions in the viewpoint of users, we also treat “observed” material. For the reason, we also need to collect the data via crawling, e.g.: number of webpages/links, distribution of language usage, spam receiving.

When we observe/monitor the Internet phenomena, these items should be collected efficiently. Figure 2 shows the integrated observation system for the Internet, especially Web pages. “Web pages” area represents the subject of raw data. Basically, web pages have URL information and contents files include text or multimedia. The second area on the left represents the tools for information extraction. From URLs, we get some useful information on geography using several tools. When we get the contents file, we usually use some crawler application. In the file, there is useful information about language, which can be extracted with a language identifier. For our purpose, we have developed Language Identifier, G2LI (Choong et al. 2009). The second area on the right represents data integration and analysis. Here, we have to develop many modules for data integration. Through these processes, we finally show many indices which we have developed.

In the viewpoint of this, the role of LOP activity is to collect these data and to monitor their dynamics. Through these considerations, our activities should be to move to the next step – data sharing. The most important point for data sharing is to standardize the data record format. Our idea for this will be introduced in the next section.

2. Enhance assessment: data sharing

Evolving these research theme, we face several serious problems, e.g., evaluating data homogeneously, the way to stock huge amount of data. The root of the problem is the same as big data analysis. Jagadish et al. (2014) introduced the big data analysis pipeline, which included six steps and big data characteristics that make these steps challenging. From here, we focus on the “timeliness (velocity)” and “scale (volume)” steps, which involve the problem of the rapid increasing raw data size and processing velocity. For example, when we analyzed language identification for the collected web pages, it took 1,400 hours per crawl, up to two months. And more, it also took up to six months per crawling (per area). It means when we make monitoring of the Internet phenomena, we just set one monitoring chance per year.

To operate monitoring more effectively, we need to make “human collaboration” as a first step of Jagadish et al.’s pipeline. The most important step to make human collaboration is data sharing. Realizing our final goal, we also consider

that these observed data will be public. So we introduce the idea of “open data.” Open data:

- are released by someone who has an amount of dataset,
- are easily accessible,
- provide open discussion,
- ensure cross validation for research results, and
- have equal chances of research.

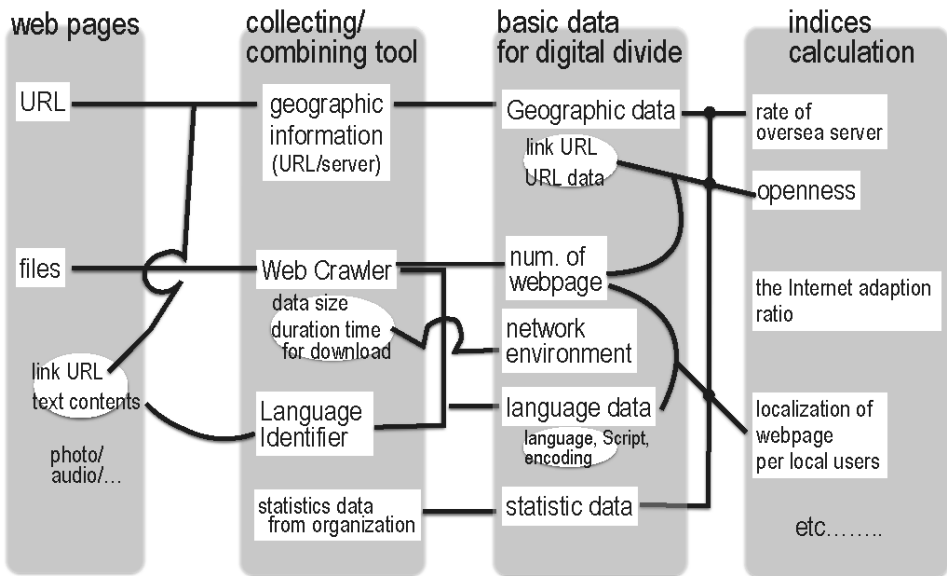


Figure 2. The outline of cultural/linguistic/other diversity observation.

2.1. Data format development

The basic idea of the ITHF is an HDU (Header/Data Units) structure. It comes from the FITS format, which was defined as RFC 4047. When we get each indices data, we need to add extra information, such as when/how/where/who get these data, or license, data size, and so on. This information treats header data, and adds with text format. Data (HDU data) is for storing observed data based on header declaration. These data are generated from the observed raw data, handling with primary treatment data and compressed. The “HDU” generates a set of a header and data, as shown in Figure 3. The advantage of the structure is easy adaption for enlargement of data sharing.

HDU enables easy addition/subtraction of data set, and someone who wants to develop an analyzing tool for digital divide, can easily do it because it is based on a standard format. We have already developed core tools for generation/read-write/index calculation in the C language.

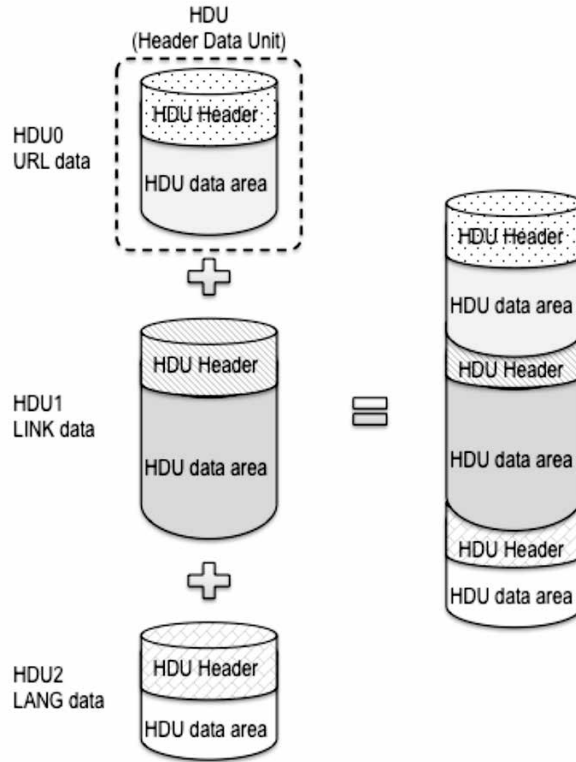


Figure 3. The structure of ITHF

2.2. Aggregate/disclose ITHF existence

The other important point is the possibility of “aggregate/disclose ITHF.” There are many basic technologies for aggregation, such as RSS, Atom, database, network protocols, and so on. With these technologies, we can design an architecture for aggregation/disclosure of these data. Raw data and preliminary treatment data will be stored in individual institutes. People belonging to an institution who want to share their data just have to disclose the ITHF location meta data. The meta data are shared among researchers or users who are interested in the digital divide. We have just started to develop

the system. Once the aggregation system's operation is stabilized, our research will become more effective.

2.3. Advantages of the ITHF

At the end, we would like to summarize the advantage of the ITHF. There are three points.

Firstly, "data sharing" becomes easy by making consideration of specific use contexts unnecessary, and any data collection methods acceptable. The most difficult point to share these data is diversity in the methods of data collection. ITHF is independent of the method. Mere storing of the format is important. We believe the uniform format will remove several barriers in data sharing.

Secondly, data sharing facilitates studies in the field of cultural/linguistic, and other diversity on the Internet. Sharing locally disclosed data has been considered impossible for most researchers. However, ITHF provides a breakthrough for this difficult problem by developing a standardized processing methodology.

The last, data sharing makes it possible to create new indices or revise the existing ones. When we get new data, we may want to analyze them based on the existing indices. In some cases, we are satisfied with mere recognition of the existence of diversity in the Internet. However, in other cases, we may want to discover new indices with serendipity, or with more analytical ways concerning, e.g., changes found in the Internet society/technology/human mind, and so on. ITHF will be useful to facilitate these processes.

Acknowledgement

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Detrimental Aspects of Prescriptivism

Abstract

This article first discusses how prescriptive norms can be detrimental to the use of minoritized languages. It then discusses how prescriptive orthographic norms can be detrimental to orthographic standardization of languages, and to the writing of those languages. Then, based on these two areas of prescriptive norms having detrimental effects, it argues that multilingualism in cyberspace is very much facilitated by preserving the laissez-faire attitude concerning how things are written on the Internet, especially in chats and texts and tweets and other short, informal communication. This article attempts to demonstrate that any prescriptive norms that anyone tries to impose on the spelling or use of any language on the Internet would be detrimental to the full effective multilingual use of the Internet, and something to be suppressed as much as possible by all those who desire multilingualism in cyberspace for the communicative, social and educative good of everyone on our planet.

Prescriptivism discouraging local language use

In April of 2015, I had the privilege of participating in the Community Based Language Development workshop in Kuching, Sarawak, Malaysia. This event provided training in community based language development for local languages practitioners. During this workshop, I was working with language development related leaders from the Sebuyau language [snb] (<http://www.ethnologue.com/language/snb>) and ethnic community of Sarawak.

Many of the ethnic Sebuyau speak Sebuyau, their ethnic language, Iban, a related regional language, various forms of Malay, the national language, and some Mandarin and/or English, as many of the employers in that area are Chinese, and as English is appearing to be increasingly attractive for global communication.

One very interesting situation that I learned about was that most of the Sebuyau people are literate in Sebuyau, and are regularly texting, messaging, posting, etc. in Sebuyau on their mobile phones or computers, even though

there has never been any literacy training whatsoever in that language. This is accomplished through widespread literacy in Malay, the national language through the national school systems, and because Malay and Sebuyau are related languages on good terms.

Written Sebuyau loosely follows the Malay writing system and conventions. And as typical with online texting, messaging, posting, etc., creativity in putting one's thoughts into writing is the norm.

During one work session, the older language leaders present revealed that the younger generation of Sebuyau speakers does not speak the language in a way that is acceptable to the older generation. The younger generation doesn't seem to include the more specific, lesser used, vocabulary items in their speech. And when the older generation hears the younger generation using their limited Sebuyau, the older generation criticizes the younger generation, to shame them into using the more elaborated Sebuyau. When thus criticized, the younger generation regularly switches languages. They stop using Sebuyau in front of the older generation, and start using Malay, the national Language, or Iban, a regional language.

The older generation was regularly criticizing the younger generation for using their simplified, modern Sebuyau because they wanted that generation to speak the language "as it should be spoken", according to their norms. It was interesting, that in describing the situation, the older people there didn't seem to realize that what they were doing was having the exact opposite effect of what they wanted. They wanted all generations to be using Sebuyau, and using it correctly. The older generation seemed to be treating the younger generation as if it was just a matter of will, and if they wanted to, the younger generation could use the more elaborate, complicated, precise terminology of Sebuyau.

In reality, it was more likely a matter of level of acquisition and familiarity with Sebuyau. As the younger generation was cut off from using Sebuyau with the older generation, by the scolding or castigation of the older generation, they only had other younger people to use the language with, and thus probably didn't have access to the rarer, more precise, terminology.

From my outsider's perspective, it seemed so clear that the solution was for the older people to welcome the younger people into their speech community by stopping their criticism and encouraging, instead of discouraging, the use of Sebuyau. And then by contact and communication in that one blended community, the two emerging speech communities could blend into one, with the younger people learning the rarer vocabulary items, and the older generation understanding the innovations of the younger. As it is, with the older generation prescriptively driving the younger generation away (linguistically), there will

probably be a growing gap between the speech varieties and communities of the younger and older. And there is much more probability that the younger generation will be more regularly not choosing to use the ethnic language.

This example of prescriptivism, the maintenance of how a language should be spoken or written, resulting in the opposite of what those involved in the prescriptivism desire, is not at all uncommon. Often, those involved in prescriptive behaviors desire that the language be used “correctly”. Often the result is that the language is not used.

Prescriptivism hindering orthographic standardization

Not only can prescriptivism get in the way of language use and vitality, it can also impede desired language or orthographic standardization. If standardization was simply a matter of someone creating and declaring something to be the standard, standardization would be simple. Standardization, however, includes the people who use the language agreeing with and using the standard. If one happens to be living in a docile, obedient, structured, hierarchical society, standardization can indeed be effected by a decree from the top. In other case, standardization includes the people using the language and then, as a group, forming and adopting standardized norms of use over time.

When I was working and living in the Central African Republic between 1990 and 2001, the national government was promoting an orthography for the national language, Sango, which included complete marking of tone. The problem with that orthography was that the functional load of tone in the language was fairly low, and that just about all the speakers of the language were not able to easily determine and transcribe the tones of any particular word, even though they would regularly pronounce the words with the correct tones. A few linguists and musicians were able to hear or recognize the tone, and thus be able to write the language, but all others were not able to write the language correctly, with the tones, because they would have to go to an almost non-existent dictionary to look up each word in order to know how to spell it in order to get the tone diacritics correct. The result was that there was very little being written in the prescribed orthography.

This in itself, very little being written in a language, defeats the process of orthographic standardization, as standardization usually implies norms developing with more and more use of the language or writing. Prescriptive standardization efforts were getting in the way of desired standardization. The prescribed standard with its pervasive tone marking hindered the writing that is intrinsic to natural orthographic standardization. In this case in the Central

African Republic, more and more people started writing, but totally ignoring any tone symbols, in a way rebelling against the prescribed standard as they developed their own standard, which then became the real one.

In *Developing Orthographies for Unwritten Languages* (Cahill and Rice 2015) Elke Karan's Chapter 6, *Standardization: What's the Hurry?* (2014: 107–139) argues against rushing writing system standardization for languages that are just recently being put into writing. She maintains that in many cases it is better to allow a writing standard to “evolve through practice rather than prescription” (ibid.: 107). She argues that standardization takes time and demonstrates this from both the history of European language standardization (ibid.: 120) and the standardization of newly written languages (ibid.: 121). She also points out that Mosel (2006: 79) says that the lack of standardization gives local language workers the freedom to write without fear of making mistakes. Mosel (ibid.) says, “As long as the orthography has not been standardized, there is no such thing as right or wrong spelling.” Karan (2014: 124) thus argues that rapid prescriptive standardization can demotivate engagement in literacy, “Surprisingly, fear of spelling mistakes can discourage literacy engagement.” Again we see the scenario where prescriptivism in standardization inhibits the engagement necessary for standardization.

Prescriptivism discouraging multilingualism in cyberspace

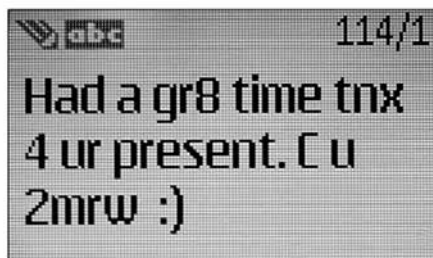
I strongly suggest that as it has been shown that standardization prescriptivism can discourage local language use, and standardization prescriptivism can hinder orthographic standardization, standardization prescriptivism can also discourage the use of minoritized languages in cyberspace. When any kind of author faces the fear of writing incorrectly, that demotivates writing. When writing is devoid of that fear, it flourishes. This is most probably even more true when considering the sociolinguistic environment and ecology of minoritized languages.

Standardization is an element and topic in language development discussions and texts. But just because standardization is listed as an element of language development it doesn't mean that it is expedient, useful, or called for at any time in any place. Standardization as an element of language development should be seen more as a natural process than a prescribed addition in order to avoid the common pitfall of discouraging exactly what you want to encourage.

Traditionally Internet based communications such as texting, chatting, tweeting has enjoyed a true *laissez-faire* attitude concerning how things are written. There are many different chat abbreviations, acronyms and shorthands.

Numbers are used to represent their pronounced syllables. Punctuation is often dropped. And all this has contributed to how much communication presently is carried out through these means. It has been freeing, helpful, and facilitating people to communicate as they wish.

Two examples of text messages using some of these creative ways are presented below.



I firmly believe that a necessary factor for true multilingualism in cyberspace is this freedom from prescriptive norms for all languages. New Internet users/contributors all over the world, and in all the languages of the world, need to be free from the fear of “doing it wrong”, “making mistakes”.

Thornhauser (2003) demonstrated that students who did not feel free to write in Standard Arabic, because of the prescribed, precise spelling rules, felt liberated to write in emails and chat rooms in colloquial Arabic, because there were no rules and thus they could use their creativity and intuitions in how they wrote.

Elke Karan (2014: 125) commenting on Thornhauser writes that, “a standard may be perceived as a schoolmaster looking over one’s shoulder” and the absence of a standard can be a “freedom from spelling rules that can be quite liberating for writers.” Karan summarizes her thoughts on this saying (2014: 132), “Research has shown that excessive focus on the code can actually be demotivating for people who wish to write but dare not do so for fear of making mistakes. This suggests that more freedom in spelling could be advantageous.”

I firmly believe that freedom from the judgmental schoolmaster looking over one’s shoulder, freedom from spelling and other language rules should be an enduring characteristic of much of the communication on the web, especially

shorter, more informal settings such as tweets, IMs, chat messages, etc. It is liberating, and allows many more to contribute. It allows people to write something in a language that has never before had a word put into writing, perhaps using writing conventions similar to those they use in a more widely spoken language.

And if one ever has a favorite way of how to write a particular language, my suggestion would be to use that way to communicate on the web, and see if others see its advantages. If it does indeed have advantages, others too will see that and adopt it, and it will then be integrated as part of the group created standard.

And if we ever see cases where someone is imposing a standard on a how a language is used on the Internet, we all should use any position, platform, respect, or clout we have to squelch that potentially very damaging prescriptivism, and explain to the perpetrator that just because standardization is listed among the activities or parts of language development, that doesn't mean that it isn't destructive when it is imposed.

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Preserving Indigenous Languages of Russia's Siberia in a Globalising, High-Tech World

In 2008, Khanty Mansiysk, the capital of Russia's eponymous region, hosted the 5th World Congress of Finno-Ugric Peoples, "Identity and the Changing World". The gathering reiterated that among their key tasks for years to come was preserving and advancing the Finno-Ugric and Samodi languages and cultures – as treasures that are part of the world heritage of humankind.

Many speakers also highlighted problems standing in the way. A Saami delegate, for one, told the sad story of a fellow countrywoman who spoke a now extinct Saami dialect. This was an old woman and she had no one around to talk with. Her only listener was a cow, and to that animal would she address her words, no longer comprehensible to other living humans (Pivneva 2013).

This example is not a one-off, unfortunately. All such cases further increase our shared concern for the fate of indigenous languages and make us more motivated to study, document and support them, with Russia's Khanty-Mansi Autonomy (also known as Ugra) being one of the few regions where the native population has managed to preserve its traditional culture.

In this report, we would like to identify three major tasks to focus on in the years and decades ahead – tasks that, in our view, are crucial to preserving ancestral languages in a modern high-tech world:

1. Making indigenous languages fashionable; finding ways to expand their use in line with 21st-century needs and possibilities.
2. Reorienting trends in minority language use by the masses.
3. Employing modern multimedia technology in language learning and promotion.

The Ob-Ugric Institute of Applied Research and Development has been involved for the past 25 years with the study of the Ugra region's main indigenous languages (Khanty, Mansi and Nenets) and the preservation of traditional folklore, along with designing language teaching aids for comprehensive schools across Ugra.

Over that period, the Institute has published more than 200 monographs, dictionaries, folklore compilations, and textbooks on history, literature and folklore studies. All book publication projects, including in indigenous languages, are seen by the region's authorities as socially important, and can thus benefit from budget support.

A scholarly newspaper, *The Ugric Herald*, was launched in 2003, and has since been serving as a platform for sharing related expertise across the academic community, in Russia and Europe alike.

The Institute's staff make every effort to support and document the living languages of the indigenous Ugra population. They are trying to figure out what needs to be done for a minority language to continue being spoken in a family environment and for it to be passed on to new generations. And how can young people be stimulated to learn their native minority languages?

These days, indigenous language learning serves as kind of a "protective regulation", one safeguarding the indigenous communities against spiritual loss. But how should we go about making indigenous languages fashionable with the young and encouraging their interest in traditional culture?

Researchers believe that the critical point in the life of a language comes when it stops being passed from one generation to the next within a family. If there remain no children speaking a certain language, that language is, clearly, in jeopardy. The extent of danger here depends on the youngest speaker's age. With 20-year-olds, there is still a chance the language will be taught to their future offspring. But if the youngest speakers are 60, then the language has little chance for survival, and the community's switch over to the language of a more viable neighbour is imminent.

To develop the communicative potential of an indigenous language, it is important to expand that language's use more daringly and to stimulate an interest specifically among teenagers, with whom their mother tongue may or may not have become a vital need. Despite the Ob-Ugric Institute of Applied Research and Development being a scholarly establishment, we have turned our sights onto children's literature as well as literature on language teaching and learning. Our intention is to publish books that children would find

exciting, in design and content alike. And to make that happen, books need to be of high artistic quality and relevant to realities of the modern day.

Our “Books for Children” project is three years old now, and undergoes regular updates. We have children’s tales published in three languages (an indigenous language along with Russian and English), in books provided with mini-dictionaries and illustrated by a UNESCO Graphic Artists Guild member, who also teaches at the regional arts school. In families, such books may live for years.

A language can be brought into fashion with the help of phrasebooks, especially if they are in demand among members of other cultures. With this in mind have we compiled our Khanty-Mansi-Russian-English phrasebook, carrying some of the most frequently used words and expressions along with their translation equivalents. We are now planning to develop digital dictionaries and phrasebooks.

The task of compiling universally accessible dictionaries is more challenging than it may seem. The Mansi language, for one, has the expression “urnei uritelum”, which can be adequately translated into English in as many as 14 words, “I am waiting for you, darling, like everyone else is, but only more so”. And then, there is the Mansi word “pvtunkve”, meaning, basically, “to chip ice with an ice pick”. But, as scholars point out, the use of suffixes can give this verb 33 different meanings.

Another priority is to reorient trends in the mass use of languages; this one arises from the need of enhancing a language’s communicative potential. A big role here belongs to education, to arts & culture and sports institutions, as well as to members of the public. The format varies from contests to festivals to campaigns.

On 22 February, proclaimed by UNESCO as International Mother Language Day, the Ob-Ugric Institute of Applied Research and Development – in collaboration with the Khanty-Mansi Autonomy’s Education and Youth Policies Department and the public association Spaseniye Ugrы (Saving Ugra) – came out with the proposal to organise a dictation in the Khanty, Mansi and Nenets languages. Nineteen venues were picked across the region to host the event. More than 300 indigenous inhabitants came over to test their native language skills. In terms of professional occupation, the participants ranged from teachers to workers, from retirees to students, librarians, media personalities, members of parliament, etc. The age span was also quite wide, with a seven-year-old being the youngest participant and a 78-year-old, the most elderly.

Russia's Yamal-Nenets Autonomy and Hungary's University of Szeged have already expressed their interest, among others, in taking part in next year's dictation.

As 2015 was officially proclaimed a Year of Literature in Russia, we wondered how we could possibly benefit from the campaign to change public sentiment for indigenous languages. We had managed to rescue Ugra's minority languages in their written form, but were clearly losing the battle as far as oral speech goes. Awareness of that fact prompted us to launch a literature-centered educational project, "A Reading Ugra", to involve several contests:

1. Literary Ugra: A literary composition and cinquain poetry contests.
2. The Voices of Books by Ugra Authors: A contest for best recitation of a Ugra author's literary piece.
3. A creative research project contest.

Each of the contests drew over 200 young entrants – much more than we had expected. Characteristically, the expert panel had to establish an additional 53 prize categories to reward those in the youngest age group, 3 to 7.

Aware that an indigenous language cannot be saved from extinction without knowing the cultural traditions of the community speaking it, we decided to celebrate the Year of Literature by designing a literary map of Ugra as an open-end information resource on prose writers and poets from among the Khanty, Mansi and Nenets communities.

The legacy of authors belonging to indigenous peoples of Russia's North is an important ingredient in the spiritual culture of these northern communities, and we believe it must be thoroughly studied and explored. The map is available to all and can be accessed on the Institute's website. It comes with the featured authors' biographies, bibliographies, excerpts from fiction, critiques, and archival photographs.

These days we are facing new challenges, such as the presentation of indigenous languages in cyberspace. In trying to cope, we should make use of the powerful tools offered to us by the globalisation era. But while being part of the globalising world, we have our own path to follow, making sure the distinctive culture and language of our ancestors are not lost. We can see Siberia now turning into a modern, high-tech area. To be able to keep up, indigenous language use and learning methods will need to get modernised accordingly. With that goal in mind, we are currently working to include interactive technology in the language learning toolkit.

For our first indigenous language learning project, we have developed a special course with practical assignments, through which anyone can learn to speak Ugra's indigenous languages (Khanty, Mansi and Nenets) while also getting to know their background.

One of the Institute's priorities is to collect, study and preserve local folklore. There is an electronic storage being created for the folklore of the Ob Ugrians and Samodi. The folklore content archived in our repository currently amounts to 3,600 hours. Is this little or a lot? Well, if played round the clock, the audio recordings we have assembled by now – of folk songs, tales, stories, rituals – will take five months to hear in full. And our efforts to collect and digitise folklore are ongoing.

We realise just how important it is for new generations to come to view their language and culture not solely through the prism of traditionalism, but also as part of the global high-tech landscape. Indeed, modern information technology is the key to protecting endangered languages and ensuring the viability of indigenous cultures.

It would be fair to say that in the modern-day world, a language non-existent in a digital format has no chance of surviving as a full-fledged means of communication, and will end up washed out of the public domain. Cultures and communities devoid of writing tools adequate to the 21st century are bound to eventually find themselves under foreign linguistic occupation.

That said, people trying to create Web resources in Ob-Ugric languages encounter serious problems now. And there are workable solutions yet to be found.

Given that any natural language is part of a culture as well as of speech activity and that it creates a strict world-modelling structure expressing categories and notions characteristic of that particular culture, the presence of indigenous languages in cyberspace puts at least two tasks on the agenda:

1. The need to develop an ethical code for the presence of ancestral languages on the Internet.
2. A change of attitude to language as a resource that helps us move through life.

In conclusion, I would like to recall a conversation we had in 2007 with Janos Gulya, a renowned Hungarian linguist specialising in Finno-Ugric languages. We met up following an encounter with students of Ugra State University.

Here is one of the questions put to him then: "As someone involved with Khanty studies, you are well aware that the number of indigenous inhabitants ignorant

of their native language and culture is on the rise. Can such non-speakers be identified as Khanty and Mansi, really?”

In reply, Gulya said:

“I have been working with students for almost 30 years now. What was it like in Germany in the past? First, there were Germans interested in Finno-Ugric studies, and they would enter university to pursue a related programme. Later on, a lot of young people came along from families where one parent spoke Finnish or Hungarian. Nowadays, most applicants entering Finno-Ugric departments speak neither Hungarian nor Finnish, nor are they familiar with the Finnish and Hungarian cultures. But they know that a grandparent of theirs was an ethnic Hungarian or Finn, and this is what motivates them to study Finno-Ugric languages and culture. Here you have a similar situation, with people reasoning like, ‘I don’t speak Khanty, am not familiar with Khanty culture, but I know that my ancestors were Khanty, and this makes me eager to study the language.’ And over time, perhaps, people from that category will grow into competent professionals and Khanty/Mansi community members to be proud of – just because they have that sense of belonging.

“What is the most important thing about Khanty-Mansiysk? The language and heritage of the Ob Ugrians, their culture or their ethnography? In my view, language and culture are both more important, with language being the defining factor – for the simple reason that specific languages each express an ethnicity as well as its culture.”

Hopefully, past and future contacts by experts from across the world will make it possible for all of us to multiply our expertise in preserving and advancing indigenous languages. We are open to collaboration, and would be most willing to join collaborative projects in the area.

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SECTION 3. ORGANIZATIONS AND PROJECTS

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IFLA Advancing Multilingualism in Cyberspace: Trends, Policies and Practice

The International Federation of Library Associations and Institutions (IFLA) recognizes its critical role in ensuring that its members across the globe are able to provide access to information to their communities in local languages, and to the extent possible, to provide local content in the languages of other parts of the world. Universal access to information is hindered when information is not available in the language of the library and information user. IFLA has seven official languages: Arabic, Chinese, English, French, German, Russian and Spanish, and its business language is English. This paper presents an overview of IFLA as an organization and its work on advancing multilingualism in cyberspace, with an emphasis on trends, policies and practice.

IFLA: an overview

Founded in 1927, the International Federation of Library Associations and Institutions (IFLA) is the leading international body representing the interests of library and information services and their users, and the trusted global voice of the library and information professionals. It is an independent, non-governmental, non-profit organization with over 1400 members in nearly 150 countries. IFLA aims to:

- represent the interests of its members throughout the world,
- promote high standards of provision and delivery of library and information services, and
- encourage widespread understanding of the value of good library and information services.

During the 2013–2015 period, IFLA was led by President Sinikka Sipilä, under the theme *Strong Libraries, Strong Societies*, and it is currently led by Donna

Scheeder under the theme *Libraries, A Call to Action*. It is also represented by other elected officers, who make up the Governing Board, with its headquarters at The Hague, and regional offices around the globe (see Figure 1). The staff at The Hague conduct the business of the association and the regional offices address library and information interests and the needs of IFLA members regionally.

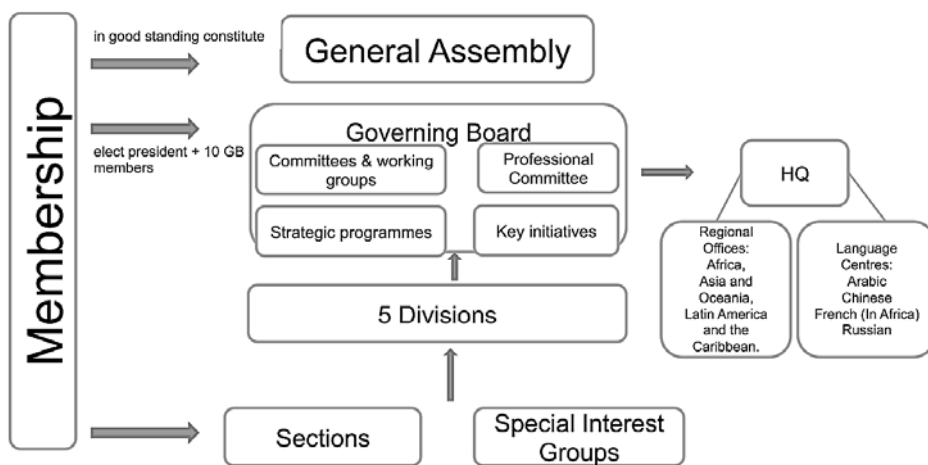


Figure 1. IFLA organisation structure

IFLA's work is informed by its Strategic Plan (2010–2015), from which a two-year plan of Key Initiatives is developed to identify the biennial activities to be achieved. Its Core Activity Strategic Programmes, which further the organization's advocacy and development goals, include:

- Copyright and Other Legal Matters (CLM) advises IFLA and represents the voice of the international library community in matters of access to digital content, copyright limitations and exceptions.
- Freedom of Access to Information and Freedom of Expression (FAIFE) raises awareness of the connection between libraries and the values of intellectual freedom, and the need to protect freedom of expression.
- Action for Development through Libraries (ALP) collaborates with libraries, library associations, partner organizations and library professionals in developing and emerging countries to deliver relevant, sustainable activities for equitable access to information and better

library communities. It is currently engaged in capacity building for library and association development.

- Preservation and conservation (PAC) focuses on issues of preservation and initiates worldwide cooperation for the preservation of library materials.
- Bibliographic standards (UNIMARC) maintains and develops the Universal MARC format (UNIMARC), originally created by IFLA to facilitate the international exchange of bibliographic data.

Cooperation is important for IFLA to advance its mission. IFLA's status as the global organization for library and information services ensures that its voice is represented through relations with UNESCO, ECOSOC, WIPO and ISO. It offers consultative status to NGOs in related fields including the International Publishers Association (IPA). IFLA is a member of the International Committee of the Blue Shield (ICBS), which co-ordinates action in situations when cultural property is at risk. The range of activities IFLA chooses to undertake focus on freedom, equity and inclusion that impact society across the globe (see Figure 2).

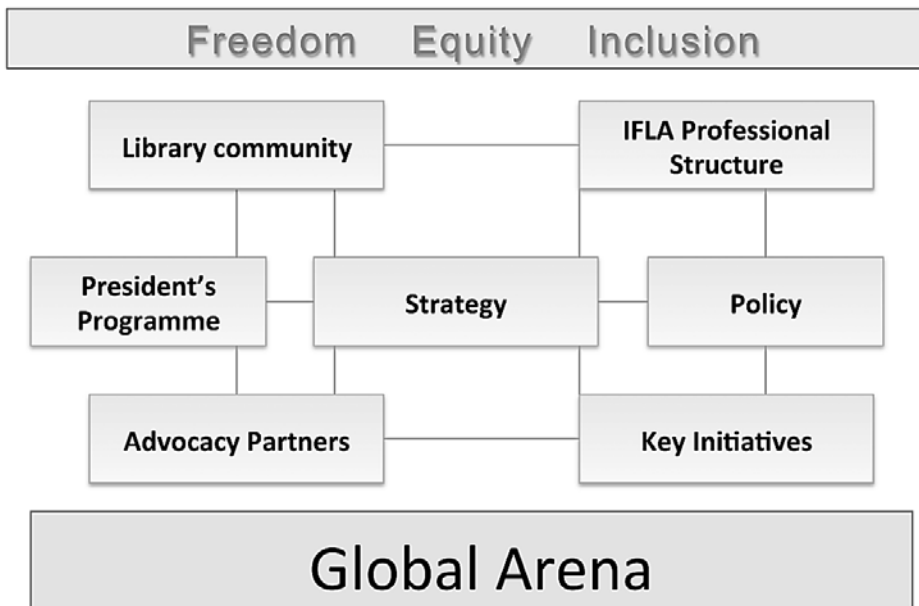


Figure 2. IFLA activities in context

IFLA's multilingual activities

Guided by its Strategic Plan 2010–2015 and Key Initiatives, IFLA is working to improve access to information and cultural heritage for the global community. The key initiatives for 2013–15 include access to digital content; international leadership; outreach and cultural heritage. As an evidence of IFLA's activities on multilingualism, a Google search on July 4, 2015 on “IFLA multilingual” reveals a range of activities including guidelines, standards and multilingual access (see Figure 3). IFLA's work on multilingualism in three areas: trends, policies and practice, is reported here.

The image is a screenshot of a Google search results page. At the top left is the Google logo. To its right is a search bar containing the text 'ifla multilingual'. Below the search bar are navigation links: 'Web', 'Shopping', 'News', 'Images', 'Videos', 'More', and 'Search tools'. A horizontal line separates these from the search results. Below the line, it says 'About 32,800 results (0.23 seconds)'. The first result is titled 'IFLA -- Guidelines for Multilingual Thesauri' with a URL 'www.ifla.org/.../i...' and a snippet: 'International Federation of Library Associations and I... Sep 16, 2014 - Multilingual indexing vocabularies exist in different forms, e.g. subject heading lists, thesauri, enumerative classifications, analytico-synthetic ...'. The second result is titled 'IFLA -- Multilingual Dictionary of Cataloguing Terms and ...' with a URL 'www.ifla.org/.../...' and a snippet: 'International Federation of Library Associations and I... The Multilingual dictionary of cataloguing terms and concepts contains definitions for many terms and concepts used by the library cataloguing community.'. The third result is titled 'IFLA launches multilingual website' with a URL 'www.ifla.org/.../i...' and a snippet: 'International Federation of Library Associations and I... Feb 25, 2013 - The launch of the multilingual website provides improved access to existing and newly translated content in languages other than English.'. The fourth result is titled 'Multilingual presentation ifla 2013 08-19 - SlideShare' with a URL 'www.slideshare.net/.../multilingual-presentation-ifla-2013-0819' and a snippet: 'Sep 6, 2013 - Multilingual WorldCat presented by Janifer Gatenby IFLA, Singapore, 2013-08-19 Karen Smith Yoshimura Eric Childress Janifer Gatenby Jean ...'. The fifth result is titled '[PPT] Multilingual bibliographic standards in RDF: the IFLA ...' with a URL 'www.gordondunsire.com/pubs/pres/MultilingualBibStanLight.pptx' and a snippet: 'Multilingual bibliographic standards in RDF: the IFLA experience. Gordon Dunsire. Independent Consultant; Chair of IFLA Namespaces Technical Group.'. The sixth result is titled 'Multilingual Bibliographic Structure - OCLC' with a URL 'www.oclc.org' and a snippet: 'Research › Themes › Data Science › OCLC'.

Figure 3. Google search on “IFLA multilingual” conducted on July 4, 2015.

Trends

At its 2013 World Library and Information Congress in Singapore, IFLA released its *Riding the Waves or Caught in the Tide? Insights from the IFLA Trend Report (2013)* (<http://trends.ifla.org/summary-report>). The Trend Report was developed with consultation of experts within and without the library and information professional field. The trends were identified to allow the library and information professional community to keep abreast of cutting edge developments impacting practice. The five trends focus on access to information, online education, privacy and data protection, hyper-connected societies and new technologies.

Trend 1. New technologies will both expand and limit who has access to information. Access to information is essential in empowering individuals and communities. Technology has a role to play in enhancing access, and the extent to which it will expand or limit access will be based on factors such as cost, ease of use, content available, language of use or content, availability of a reliable source of electricity. The use of information and communication technologies (ICTs) also brings up issues that the library and information field needs to be ready to tackle including information literacy skills; ownership of content/IP in technology innovations; mobile access to digital data; and emergence of new business models that harness the public's enthusiasm for consuming, sharing, creating and modifying content. The use of ICTs to access information raises the following multilingual issues for the library and information profession:

- Minority languages are not well represented in library collections, programmes, services and websites, especially indigenous languages.
- Library practices tend to follow policy; thus, they are multilingual if the country or locale is officially multilingual, or the library is in a large, research university (regardless of official status, most countries are multicultural).

The above issues point to the following concerns:

- 1) Language perpetuation,
- 2) Language preservation,
- 3) Language diversity,
- 4) Automatic translation,

that only need to be addressed but they also present the profession with many opportunities to:

- collect, digitize, preserve multilingual content, and make it accessible;

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- create new authentic content; and
 - translate content into minority languages.

One of the first problem areas that libraries can tackle is multilingual access to their website, which is their virtual presence and gateway to their information. For example, Although Spain's official language is Castilian Spanish, the website of the Biblioteca Nacional de España (National Library of Spain, <http://www.bne.es>) is accessible in 6 languages that include Spanish, four regional languages that are widely used in the country, and English. As well, recognizing the high use of English worldwide and by tourists, South Korea offers its National Library of Korea website (<http://www.nl.go.kr>) in Korean, its official language, and English.

Trend 2. Online education will democratise and disrupt global learning. This trend has resulted in inexpensive or free online courses being available; digital opportunities for lifelong learning becoming increasingly essential; a greater mix of formal and informal learning pathways; new pedagogical models based on easy to locate information; the growing value of intermediaries to support online learners via mentoring, peer learning and collaboration; and increased open access to scientific information.

Although technology can reduce the linguistic gap, libraries must ascertain the local reality, by examining the learning technologies (e.g., MOOCs, global access and learning, costs, language, broadband needs, equipment, etc.), and the multilingual educational materials available to their communities. The opportunities that ICTs open up include:

- communication among minority language speakers anywhere in the world, especially native language speakers with language learners;
- access to technology for individual and group learning; and
- advocacy and collaboration to reduce copyright restrictions, e.g., <http://www.eifl.net/news/world-book-and-copyright-day-2014-eifl-library> (<http://www.eifl.net/blogs/world-book-and-copyright-day-2014-eifl-librarians-voice-their-hopes-copyright>).

3. The boundaries of privacy and data protection will be redefined. In this era of greater digital connectivity, there is a risk of leaving a permanent digital footprint and a need for consistent standards of online privacy and data protection. Libraries have a role to play as both a watchdog and an advocate in ensuring their community's privacy and data protection.

4. Hyper-connected societies will listen to and empower new voices and groups. The increased use of ICTs by a broader sector of society has produced the

following conditions: wide-reaching digital resources ensured the power to transform the status of women; opportunity of a global voice; empowered migrant communities; simulated virtual environments to assist decision-making and policy development; government legitimacy/credibility; and increased importance of information management skills. For libraries, there is an opportunity to assist in the use and creation of advocacy tools to empower communities, as well as to increase awareness of the regional or national use of technological resources and social media. For example, in China the equivalent of Facebook is Renren and the equivalent of Twitter is Weibo. Such differences reduce global communication.

5. The global information economy will be transformed by new technologies. Libraries should be aware of the changes created by the global information economy, in order to integrate both old and emerging technologies to enhance access to and delivery of information, as well as to teach their use. Ways that communities have been transformed include the pervasiveness of mobile devices; advances in artificial intelligence; multilingual voice translation; 3-D printing; and the need for new policies for data/privacy/information. They should survey their communities to understand the extent to which they wish to be connected and how.

Policies

IFLA plays a critical role in developing policies that inform professional practice worldwide. It does this recognizing the differences in societal and library development through research, collaboration and the inclusion of diverse voices in the decision-making process. IFLA's policy work involves the development of library standards and guidelines.

Access to digital content is an area that IFLA has directed its resources to which has resulted in the following actions:

- Advocate:
 - ✓ Within the World Intellectual Property Organisation (WIPO) for an endorsed instrument – treaty – that provides legal certainty for exceptions and limitations for libraries and archives in all countries;
 - ✓ For libraries and information services at the Internet Governance Forum, and through the World Summit on the Information Society processes, for example, The Lyon Declaration on Information Access and Development;

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- Promote adoption of:
 - ✓ IFLA Principles on eLending;
 - ✓ IFLA's Statement on Open Access;
 - ✓ Standards and guidelines for professional practice;
 - Promote and embed:
 - ✓ IFLA Trend Report on issues affecting access to information;
 - ✓ IFLA Library, a repository for IFLA publications.

Since 2012, IFLA has been actively engaged in the creation of the post-2015 development agenda by advocating for the inclusion of access to information, safeguarding of cultural and natural heritage, universal literacy, and access to ICTs. IFLA welcomes that all of these aspects are now represented within the new 2030 Agenda. A vital document that led to this success is the *Lyon Declaration on access to information and development* (www.lyondeclaration.org), which was introduced at the 2014 IFLA World Library and Information Congress in Lyon. It called on Member States of the United Nations to acknowledge that access to information, and the skills to use it effectively, are required for sustainable development, and to ensure that this was recognised in the post-2015 development agenda. The document was made available in 24 languages and has received close to 600 signatories. For information on IFLA's work on Libraries and Development, see: <http://www.ifla.org/libraries-development>.

The work of IFLA sections and other professional units produces standards and guidelines, but during 2013–2015, an attempt was made to coordinate these efforts, provide consistency in their development, identify gaps, and organize the documents for easier access. In 2013 the Committee on Standards was established to advance this work. It has created and maintains the Standards and Guidelines website (<http://www.ifla.org/standards>) to bring together related content and facilitate information access. Multilingualism has been integrated in many guidelines or standards, and those totally focused on multilingualism include:

- *Guidelines for Multilingual Thesauri*, <http://www.ifla.org/publications/ifla-professional-reports-115?og=8708>;
- *Multilingual Dictionary of Cataloguing Terms and Concepts (MulDiCat)*, <http://www.ifla.org/publications/multilingual-dictionary-of-cataloguing-terms-and-concepts-muldicat?og=8708>;
- *Multicultural Communities: Guidelines for Library Services, 3rd edition*, <http://www.ifla.org/publications/multicultural-communities-guidelines-for-library-services-3rd-edition?og=8708>.

Practice

IFLA encourages widespread understanding of the value of good library and information services, which is possible with professional practice that provides effective and appropriate services. IFLA supports libraries in their work on fostering multilingual access:

- preserving cultural and linguistic diversity in cyberspace (e.g., DPLA);
- preserving multilingual documents and promoting ICT in preserving new materials in minority languages;
- promoting multilingual thesauri and dictionaries;
- reducing the digital information gap due to the dominance of some languages in cyberspace and the absence of others;
- achieving fair copyright and IP laws to foster cultural and linguistic diversity in cyberspace, and to promote open access/open source;
- digital literacy; and
- developing and promoting language processing technologies.

In order to address their missions, contemporary libraries are introducing new tools and services, for example, data management, makerspaces with 3D printers and other technologies (new and old), digital scholarship, and connected learning. As libraries expand their services, the following multilingual issues should not be overlooked:

- libraries as a space for intergenerational (multilingual) engagement and programming;
- the need to provide “first language access” (e.g., Monterey Park Library);
- the need to identify the language richness of their communities (learners and teachers);
- the role of libraries as a free access point to multilingual materials;
- a creator of learning/access tools; and
- the need to work across sectors, e.g., with archives and museums.

A key area of IFLA’s efforts and resources has been dedicated to cultural heritage preservation including:

- IFLA’s website and conference as best practice;

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- coordinating cultural heritage (broadly defined) activities in the library sector (<http://www.ifla.org/cultural-heritage>) and in preservation (the network of PAC centres <http://www.ifla.org/pac>) and its cooperation with UNESCO on digital preservation (the PERSIST project <http://www.ifla.org/node/9087>, http://www.unesco.org/new/en/media-services/single-view/news/persist_unesco_digital_strategy_for_information_sustainability/#.VYqvJBuqpBc).

More specifically, IFLA's Cultural Heritage Reconstruction Programme focuses on preserving documentary heritage because it recognizes that culture is assimilated in community life and necessary for communities to thrive. The programme activities include:

- work with strategic partners to develop a Risk Register for cultural heritage collections and information resources in areas at risk from natural disasters or conflict; and priorities for preservation;
- work in copyright and information policy (e.g., work with WIPO, Lyon Declaration <http://www.lyondeclaration.org/>);
- establishing worldwide standards in areas like multilingual thesauri and dictionaries (e.g., <http://www.ifla.org/publications/ifla-professional-reports-115> and <http://www.ifla.org/publications/multilingual-dictionary-of-cataloguing-terms-and-concepts-muldicat>);
- work in the sphere of digital literacy: <http://www.ifla.org/publications/ifla-media-and-information-literacy-recommendations>; and
- work to enable language processing technologies, particularly text and data mining (IFLA as a signatory to the Hague Declaration, for example <http://thehaguedeclaration.com/>).

In conclusion, IFLA's work on and support of multilingualism are ongoing. As an international association it endeavors to ensure that access to information by its multilingual membership and the communities they serve is a priority. IFLA strives to provide multilingual access in its official languages during its annual World Library and Information Congress, at other events, and to its publications, and welcomes contributors and collaborators in these efforts addressing its mission.

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Ten Years of MAAYA, the World Network for Linguistic Diversity: Time for Balance and Perspectives

Abstract

This paper presents, in a synthetic manner, the history, accomplishments, balance and perspectives of the World Network for Linguistic Diversity (MAAYA), with corresponding links for further information. The MAAYA network has reached a point of transition and inflexion which is marked by an attempt to give momentum to member's participation and involvement as a way to overcome the sustainability challenge and give impulsion to a World Summit on Multilingualism (SOMOM, for its acronym in French) which becomes the main objective of the coming years. The results of a survey conducted this year are presented in more details as it represents the best manner to capture both the diagnostic of the 10 elapsed years and the source of knowledge to design a new period when member participation becomes part of the strategic vision.

Prehistory and institutional context

After the 20th century marked by the dominant discourse that advocates “a single language of communication” be it English, Esperanto or Globish, it is good to remember that each language is not merely a communication code but also carries a certain culture and vision of the world. It is also important to know that if we were to communicate with speakers of different languages, we have tools such as mutual inter-comprehension, translation and some technologies that allow us to share ideas or negotiate on equal terms without having to necessarily go through a pivot language or a “lingua franca”, disabling the speaker not having it as his mother tongue.

Nevertheless, it is certain that a number of languages occupy a growing place in the coming years according to studies conducted by MAAYA. The English-speaking and United States driven globalization of the late 20th century was followed by an identity and cultures claimant renaissance world, with regionalization of relationships making other languages stronger and more popular, despite the fact that some of those had lost ground in the last few decades and are now coming back in a hurry in teaching because, contrary to the message that we have been taught of for the last 50 years, markets are indeed not monolingual and language matters if you want to sale your product. As a matter of fact, sixty percent of consumers in developed countries would never buy a product lacking a description in their own language⁶⁵. Companies have been slow to understand it but they are now using localization increasingly, even if the national and international administrations, suffering from bureaucratic inertia, take a little more time to react.

The 2005 UNESCO's Convention on Cultural Diversity⁶⁶ reopened the debates on language issues and many NGOs and international organizations multiplied their actions in favor of language revitalization, accompanying the movement of reaction against the "all English" and any attempt of hegemony whether it is economic, political, military or cultural.

However, if the signs of regression of the world's unipolarity and monolingualism are a reality, it is still urgently needed, especially for less empowered languages, because if more important languages have passed, for the most part, the lowest point⁶⁷ and return to the centre stage, as well as numerous indigenous and regional languages⁶⁸, more than 6,500 languages still cannot boast of any visible Internet presence⁶⁹.

Several instruments are used to create an enabling environment for the protection of linguistic diversity. The European Charter for Regional or Minority Languages (Council of Europe 1992⁷⁰) is probably the most famous document produced in the 20th century on the protection of languages, but

⁶⁵ <https://www.common sense advisory.com/Default.aspx?Contenttype=ArticleDet&stabID=64&moduleId=392&Aid=1147>.

⁶⁶ <https://en.unesco.org/creativity/convention/what-is/convention-text>.

⁶⁷ *Spanish, Portuguese and Chinese are experiencing a new revival everywhere. French in Africa and around the Mediterranean, Turkish in Asia Minor, Russian and Arabic in Asia and Europe are growing again.*

⁶⁸ *Guarani, Quechua, Aymara and Mayan languages in America; Breton, Alsatian, Basque, Catalan, Friulian, Romansh and Gaelic in Europe, as examples.*

⁶⁹ <http://www.slideserve.com/radwan/fracture-linguistique-et-cyberspace>.

⁷⁰ <http://conventions.coe.int/Treaty/EN/Treaties/Html/148.htm>.

other texts preceded and today several institutional instruments are taking into account the need for action to promote languages and cultures:

- Organization of African Unity, OAU Charter (1963);
- UNESCO, Convention Concerning the Protection of the World Cultural and Natural Patrimony (1972);
- UNESCO, Cultural Charter for Africa (1976);
- UN, Declaration on the Rights of Persons Belonging to National or Ethnic, Religious and Linguistic Minorities (1992);
- UN, Resolution 56/262 on the protection and preservation of all languages (2002);
- UNESCO, Recommendation concerning the Promotion of Multilingualism and Universal Access to Cyberspace (2003);
- UNESCO, Convention for the Safeguarding of the Intangible Cultural Heritage (2003);
- African Union, Strategic Plan of the Commission of the African Union, Volume 1: Vision and future missions of the African Union (2004);
- World Summit on the Information Society (WSIS), Action Line C8 of the Tunis Agenda: Cultural diversity and identity, linguistic diversity and local content (2005);
- UNESCO, Convention on the Protection and Promotion of the Diversity of Cultural Expressions (2005);
- African Union, Charter of the African Renaissance (2006).

MAAYA in short

MAAYA⁷¹ was born as a multi-stakeholder member network whose mission is to value and promote linguistic diversity as a basis of the uniqueness of human communication. Its aim is to serve as a platform of exchange and sharing for its members and develop projects coherent with the mission.

MAAYA's objectives are to:

- Encourage stakeholders to adopt and implement measures enhancing equitable multilingualism;

⁷¹ <http://maaya.org>.

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- Promote mother tongue based multilingual education for free cultural expression and both social and gender equality;
 - Promote software localization and equal access of all languages in cyberspace;
 - Facilitate the empowerment of language communities worldwide in developing and defending their own languages and their usage;
 - Contribute to the creation and sharing of language resources;
 - Observe the implementation of language policies, ensure technological monitoring and serve as a focal point for linguistic research projects.

MAAYA expected results are:

- To contribute to the strengthening of the dialogue of cultures and civilizations for a world of peace and solidarity.
- To contribute to the reduction of the knowledge divide through the construction of concrete, specific and adapted programmes, which enhance the use of languages as means of the world's cultures.
- To implement Multi-Stakeholder Partnerships in the field of linguistic diversity.

The MAAYA governance structure is composed of:

- the General Assembly of members;
- an Executive Committee of 7 persons plus 2 suppliants, including a President, an Executive Secretary, a deputy Executive Secretary and a Treasurer;
- a Consultative Committee;
- a number of Regional Delegates; and
- thematic Working Groups open to members.

MAAYA membership as of today is composed of close to 100 institutions or individuals.

MAAYA's birth

MAAYA is somehow a by-product of the process of the World Summit on Information Society (WSIS) as its creation resulted from the fact that the same person, Adama Samassekou, was, at the same time, the Head of the African

Academy of Languages (ACALAN), with the will to set up a worldwide project for linguistic diversity, and the President of the Preparatory WSIS first phase process towards the first Summit in Geneva in 2003. MAAYA was formed during the second WSIS summit in Tunis, November 2005, under the auspices of African Union and formally launched on February 21st, 2006, in Paris, within the context of UNESCO's International Day for Mother Tongue.

The first international organizations gathered around MAAYA were:

- African Academy of Languages (ACALAN);
- African Union;
- International Telecommunications Union (ITU);
- Organisation Internationale de la Francophonie (OIF);
- UNESCO; and
- Union Latine.

The first meeting where MAAYA was the organizer, informally, on behalf of some of its members (ACALAN, ICVolunteers, Linguasphere and Language Observatory Project), was the Seminar on African Languages in Cyberspace, held in June 26-28, in Bamako.

The first formal Executive Board meeting was held in Barcelona, in February 2007, with the consolidation of the institutional parameters: statutes, authorities and headquarter set up in Geneva.

Chronology of events

Four periods can be distinguished in MAAYA's life after the birth period.

2007–2008: WSIS-IGF

During this period MAAYA took responsibility of the C8 Line of the WSIS Action Plan which deals with “*cultural diversity and identity, linguistic diversity and local content*” and it led the *Dynamic Coalition for Linguistic Diversity* of the Rio de Janeiro (2007) and Hyderabad (2008) sessions of the Internet Governance Forum. Also MAAYA was directly involved in the creation of the International Committee for United Nation's International Year of Languages, in 2007. MAAYA contributed to the creation of the Chart of Translators and Translation during the World Congress on Specialized Translation held in Havana in December 2008.

2009–2011: Bamako spirit

The *Bamako International Forum on Multilingualism* of January 2009⁷² was an outstanding event organized by MAAYA, together with ACALAN, and with the support of UNESCO, OIF, Union Latine, Mali Government and the Ministry of Culture of Austria. It was so in gathering the world specialists on the theme and in producing the *Bamako Commitment on Universal Multilingualism*⁷³ and paving the ground for many future actions until today and creating what could be called a Bamako Spirit which has been reaching out many people, actions and other events. The same period saw the launch, in Barcelona, September 2009, with LINGUAMON as the local organizer, of the first of a series of three *International Symposiums on Multilingualism in Cyberspace (SIMC)* and the co-organization, with UNESCO/IFAP, in Yakutsk, of the 2nd *International Conference on Linguistic and Cultural Diversity in Cyberspace*⁷⁴. In November 2011, the second Symposium on Multilingualism in Cyberspace⁷⁵ was held in Brasilia, with the University of Brasilia as the local organizer.

2012–2013: Net.Lang and DILINET

This period was marked by the publication of the collective book *Net.Lang: Towards the Multilingual Cyberspace*, C&F Editions⁷⁶, with versions in English, French and Russian. The book was coordinated by MAAYA and received the support of UNESCO, OIF, IDRC and the African Network for Localization (ANLOC). During the same period MAAYA coordinated the definition of a very ambitious project for the measurement of linguistic diversity in cyberspace creating, with the support of Union Latine and UNESCO, a high level consortium of 15 research partners in capacity to respond to the European Union calls for proposals of the Framework Programme. Two projects were proposed: DILINET⁷⁷, an Integrated Project of a budget close to 7 million Euros to the call ICT-2011.4.4 (*Intelligent integrated systems that directly support decision making*), in January 2012, and SEMACORE, a Specific Targeted Research Project of close to 3 million

⁷² <http://www.acalan.org/eng/confeven/forum/forum.php>.

⁷³ <http://www.acalan.org/eng/confeven/forum/commitment.pdf>.

⁷⁴ http://www.ifapcom.ru/files/News/Images/2013/Yakutsk_web.pdf.

⁷⁵ <http://www.maaya.org/ismc-2/?lang=en>.

⁷⁶ http://net-lang.net/lang_en.

⁷⁷ <http://dilinet.org/>.

Euros, with a reduction at 10 partners, to the call ICT-2013.4.1 (*Content analytics & language technologies – Cross-media content analytics*). In both cases the projects were evaluated just below the threshold for funding and the learnt lesson from this important investment was the low level of strategic interest in the European Commission for projects on the subject of linguistic diversity. The 3rd International Symposium on Multilingualism in Cyberspace⁷⁸ was held in Paris, October 2012, with Institut des sciences de la communication (ISSC) – CNRS/Paris Sorbonne as a local partner.

2014–2015: Survey and members’ participation

In the last period, reaching today, MAAYA pursues its work on measuring language on the Internet, this time focusing on French with a study supported by OIF⁷⁹ and some of the languages of France in a study supported by Délégation générale à la langue française et aux langues de France (General Delegation for the French language and the languages of France, DGLFLF) of the French Ministry of Culture⁸⁰. The focus established by MAAYA in that period was first to consolidate its statutes and other institutional elements and then open a new period for more involvement from membership. This was started by a member survey which is presented hereafter and followed by the Exceptional General Assembly with the launch of several thematic working groups.

If one takes a more macro vision of the evolution of MAAYA during those years, it could be recognized evolving:

- from **public policies** during a large launch period, with the hit being the Bamako meeting,
- to a more focused period with **cyberspace** being the target and the hit being the corresponding seminars held by MAAYA and those in collaboration with IFAP/UNESCO,
- to a period of trying frustratingly to consolidate through the funding of **large projects** and the hit being the book *Net.Lang*,
- to a new period reorienting towards **members’ participation** with the targeted hit being the SOMOM.

⁷⁸ <http://www.maaya.org/ismc-3/?lang=en>.

⁷⁹ <http://www.francophonie.org/Rapports-Publications.html> (see pp. 501–541).

⁸⁰ <http://www.culturecommunication.gouv.fr/Politiques-ministerielles/Langue-francaise-et-langues-de-France/Politiques-de-la-langue/Langues-et-numerique/La-diversite-linguistique-et-la-creation-artistique-dans-le-domaine-numerique/Etude-sur-la-place-des-langues-de-France-sur-l-internet>.

Balance

During its first 10 years of existence MAAYA has not been able to reach sufficient level of sustainability to maintain as an institution with appropriate information and communication resources conforming to its ambition. However thanks to an original mix of motivated international organizations and solidarity minded civil society players it has been able to show an honorable set of realizations, meetings and publications, especially where multilingualism and cyberspace intersect. The book *Net.Lang: Towards the Multilingual Cyberspace*, a unique multi-actor effort launched and coordinated by MAAYA is the best reflection of that and the various SIMC and the DILINET attempt have shown both the vitality of a network in this area and the impressive capacity of MAAYA to convince third parties and make them join for partnership.

All that is obviously still too far below what would be required compared to the strategic importance of the theme. This is why MAAYA shall now concentrate efforts in its second decennia to strengthen as an institution and as a network of members. This means looking for enough financial support to maintain a stable administration, obtaining a performing information and communication system, and, at the same time, fostering a much vibrant participation and involvement of its members in the area of projects and actions.

One cannot however escape to expose a critical learned lesson from this period about a parameter which has played a role in slowing the impulse of MAAYA. Despite the fact that multilingualism has obtained a new positive image in the world, as much at national and international levels, the funds and strategic attention that the main strategic players are ready to dedicate to this subject are (with very few exceptions) far from reflecting the power of their discourse (the coldness and rigidity of European Unión to free budget for DILINET and the slowness for the SOMOM project to take place are quite symptomatic of that frustrating reality).

Survey

A survey was conducted in June 2015, as a preparation step towards an Exceptional General Assembly targeted to boost the network and as a tool to capture membership opinions and recommendations.

A questionnaire⁸¹ was designed with a double trade-off between the number of questions and the time to be devoted, on the one hand, and between quantitative and qualitative questions, on the other hand. To get the most

⁸¹ See the questionnaire at: http://www.maaya.org/wp-content/uploads/2015/06/Survey_members.pdf.

complete response from the members, quantitative questions were proposed with an evaluation grid so as to avoid a common situation when binary responses would hide important nuances. In addition, the questionnaire was made without concession or complacency, for the free expression of critical thinking of every member.

The number of usable responses was 20 from a universe of 84 individual potential respondents (24%), which is a sufficient sample to validate the results.⁸² This number reflects however one of multiple tensions within the MAAYA network, that between the desire for participation and the reality of relatively low participation, although it does show that participation remains a potential that awaits adequate measures to be open up. The other obvious and predictable tension is between the desired actions and lack of resources to implement them that is reflected throughout the questionnaire responses.

The **quantitative process** was made using the following scale:

0: Null – 1: Low – 2: Average – 3:High – 4: Exceptional.

The results hereafter are computed from the average and variance coefficient⁸³ (indicator of the degree of consensus, a value close to 0 indicating a strong consensus, a value close to 1 or greater the lack of consensus).

Question	Average	Variance	Comments
Years as member	3,7	0,9	Strong variance as longstanding members and very recent members responded.
Sex	11	55%	45% of women answered.
Motivation for membership	3,4	0,2	Very strong consensus for motivation.
Sense of belonging	2,8	0,4	Sense of belonging is lower. It is a gap to close.
Goals	2,4	0,2	The goals are somehow felt as confused (consensus).
Statutes	2,7	0,4	The statutes are well received by the majority.
Former actions	2,4	0,4	Honorable rating for past actions that are not necessarily always well communicated.

⁸² The results can be read at: <http://www.maaya.org/wp-content/uploads/2015/06/Results-Questionnaire-Final.xls>.

⁸³ The variance coefficient is the standard deviation divided by the average.

Impact	1,7	0,4	The perceived impact of MAAYA is very low.
Participation	1,6	0,4	The lowest note though with relative variance.
Fees	2,4	0,5	On average accepted but high variance, consensus does not exist and the opponents strongly express
Agreement	12	60%	25% marked a strong disagreement with the payment of fees (amplified in the qualitative part).
SOMOM	3,7	0,2	Maximum consensual adherence to the objectives of SOMOM.
Contributing to SOMOM	3,6	0,2	Maximum disposition to contribute.
Regional coordination	3,4	0,2	Very strong consensus with this decision (although it appears somewhat lower in qualitative questions).

Qualitative responses were grouped into categories to allow to identify lines of consensus from them. The grouping allowed to identify strong trends without losing the fact that a detailed analysis of the responses will be subsequently a great way to capitalize this particular moment of MAAYA.

Positive points

As for the most popular aspects of MAAYA, the consensus is very large (14 responses⁸⁴) on the **very concept of MAAYA** (an organization dedicated to multilingualism), and very strong (11 responses) about the **quality of the members** who are MAAYA's greatest asset. **Mixing high-level partnerships and civil society** seems to be an original brand of MAAYA which is recognized and appreciated (7). The **openness to the world** then takes place with 6 responses, followed by the **intelligence** that MAAYA provides on the subject (4) and the existing **collaborations** (4). Finally, **past meetings** are identified by 2 responses.

Negative points

The **lack of transparency and visibility of MAAYA** stands out as the major drawbacks (11 responses). Far less often several aspects are mentioned with a frequency of 4 to 5 answers: the **lack of resources**, the **website** and a **confused**

⁸⁴ Reminding that in the qualitative responses the theme is spontaneously defined by the respondents; in that case 70% of the persons responding the survey value the concept of MAAYA.

agenda. Ever less (3 replies) members regret that MAAYA does not organize **more meetings** nor gets more benefits from the past meetings. Appear at the same level, the **low participation** of members and the weakness of the **impact** of MAAYA (including in its own playground). The list ends with the small number of **projects** and the lack of **institutional recognition** (2 responses).

This questionnaire has provided a great amount of recommendations and ideas for the network that will feed the next General Assembly and months ahead. The definition of a realistic, progressive and virtuous critical path should be the target for the next General Assembly.

There is a reservoir of ideas, suggestions, collaboration offers that MAAYA is probably not in ability to exploit immediately but that will serve as reference and horizon for the years to come. The effort to conduct this survey has been widely paid back by the members and if there is one message to remember this is probably what it symbolizes:

Members' participation may be obtained by a proactive sharing of information, and it is the key for MAAYA development.

Perspectives: the SOMOM

The main idea for the coming years is to put the issue of multilingualism at the highest level of the international agenda, through a World Summit on Multilingualism (SOMOM), which will provide an opportunity for heads of state and governments to make concrete commitments to promote and defend multilingualism, both in their country, and at regional and international levels.

The SOMOM concept does not come from the void; many coherent actions have been developed in the past years:

- the European Year of Languages (2001)⁸⁵,
- the Year of African Languages (2006)⁸⁶,
- the International Year of Languages (2008)⁸⁷,

and also some specific events mentioned the principle of the SOMOM in their final declarations:

⁸⁵ https://www.coe.int/t/dg4/linguistic/Source/SourcePublications/Rap_final_AEL_EN.doc.

⁸⁶ <http://www.acalan.org/eng/documents/ala.php>.

⁸⁷ <http://www.un.org/en/events/iyl/>; see also <http://www.unesco.org/culture/files-langues/list-en2008.pdf>.

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- The 1st Conference of Yakutsk on Linguistic and Cultural Diversity in Cyberspace, in 2008;
 - The Bamako International Forum on Multilingualism, organized in Mali in 2009;
 - The second Conference of Yakutsk in 2011, which adopted a roadmap leading to the organization of the SOMOM;
 - The International Experts Meeting on Multilingualism in Cyberspace in Khanty-Mansiysk (Ugra Autonomous Region, Russian Federation), in July 2015, when a steering committee was set up to raise the question of the organization of the SOMOM 2018, and create a group of “like-minded countries” to bring the file successfully as UNESCO and the UN.

The issues to be addressed by the SOMOM would include:

- Multilingualism and cyberspace⁸⁸;
- Access to information⁸⁹;
- Multilingualism and migrations;
- Indigenous and minority languages: actions for development;
- Languages extinction: actions for their rescue;
- Extinct languages: actions for archival preservation;
- Legal protection of citizens (through access to justice in native language);
- Foreign languages in education.

The main challenges of the next decennia for MAAYA, as one of the main voices to advocate for linguistic diversity, can be summarized as follows:

- **in the inner space:** to foster members’ growth and active participation to create grass-rooted actions while strengthening its administration and sustainability and its role of a gear between the civil society and international organizations;

⁸⁸ This topic would take a special place and would include the subjects of the content divide as a key component of the digital divide, the linguistic requirements for digital literacy, the development of reliable statistics on digital access and content by language, the development of computer based tools for languages.

⁸⁹ This thematic includes mother-tongue access to information (including the media) and education (and bilingual intercultural education), as well as development to inter-comprehension, consumer protection and citizen accessibility to supranational bodies.

- **in the outer space:** to reach out with the SOMOM as the best path;
- **in between:** to develop a sound and convincing information and communication system.

Conclusions

It could be interesting and somehow meaningful to follow the trends in the Internet searches realm of the terminology related to MAAYA in the last 10 years as an indirect way to measure the impact. GoogleTrends offers a tool for such analysis. For “*linguistic diversity*” or “*language diversity*”⁹⁰ the results show there is no evident positive evolution of the theme in the last 10 years. The same happened for the terms *multilingualism* or *bilingualism*⁹¹, curiously, the latter has been in the decrease. A very general referent is the word “*diversity*” and the bad surprise is that this word has been in the decline in Google searches in the last 10 years⁹²! One could expect a growth of interest towards the expression “*cultural diversity*”⁹³ thanks to the UNESCO declaration. The sensitivity is obviously higher but the trend is the same: not much of a remarkable growth of the public interest...

A good referent for comparison should be “*biodiversity*”, an abbreviation for “*biological diversity*”. The comparison⁹⁴ is drastic: the fame of the expressions of diversity as referred to the biological realm are far away from the one referring to linguistic and this is the crude reflection of the real situation. People have been sensitized on the issue of biological diversity much more than on linguistic diversity despite the fact that one could be considered as an extension of the other. The disappearance of a specie hurts deeply most of the people while the disappearance of a language much less. Those results show that there is a huge work to be done for sensitization and advocacy on the importance of the theme of linguistic diversity and multilingualism, a part of it naturally belongs to MAAYA, and a reasonable objective shall be to reach in the large public a level of resonance comparable to that of the issue of biological diversity.

Programming a World Summit on Multilingualism (SOMOM) is clearly the best way to change this state of affairs and MAAYA, without losing momentum on its other actions, should focus on this objective which could really open a new era on the subject.

⁹⁰ <http://www.google.com/trends/explore#q=language%20diversity%2C%20linguistic%20diversity>.

⁹¹ <http://www.google.com/trends/explore#q=multilingualism%2C%20bilingualism>.

⁹² <http://www.google.com/trends/explore#q=diversity>.

⁹³ <http://www.google.com/trends/explore#q=cultural%20diversity%2C%20linguistic%20diversity>

⁹⁴ <http://www.google.com/trends/explore#q=language%20diversity%2C%20linguistic%20diversity%2C%20biodiversity%2C%20biological%20diversity>.

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MigraLingua: Community Interpreting for and with Migrants

While migration is not a new phenomenon, statistics show that population mobility worldwide is on the rise. The latest edition of the Atlas of Migration in the World (*Atlas des migrations dans le monde*)⁹⁵ reported that there are an estimated 200 million migrants and displaced people around the world, representing about 3% of the world's population. People may move within their own country, from rural areas to cities, or leave the place where they were born to become international migrants. Motives for both internal and external migration include fleeing conflicts, wars and natural disasters or seeking a better livelihood and conditions that correspond to their basic daily needs. Yet another set of migrants have freely chosen to leave their countries, to become civil servants or international workers and clerks.

Many of those who are leaving their country, whether because of conflict and war or for economic reasons, take considerable risks. From 1st January to 14th July 2015, an estimated 160,022 refugees have entered the European Union alone.⁹⁶ The top countries of emigration towards Europe are currently Syria, Eritrea, Afghanistan, Somalia and Nigeria. According to the International Organization for Migration (IOM), close to 2,000 people died trying to cross the Mediterranean Sea to reach Europe during this same time-span.⁹⁷

In this delicate and tense geopolitical context, both short-term humanitarian assistance and long-term integration of migrants is often a challenge for the countries of immigration. Part of the challenge is linked to languages: if migrants do not speak the local language of their country of residence, this can lead to situations of exclusion, as well as problems with children's schooling. These difficulties typically represent a challenge for local authorities. The article "Languages, cyberspace, migration" in Net.Lang⁹⁸ outlines the possible ways in which migrants can use cyberspace: to access information which can

⁹⁵ *Wihlto de Wenden, Catherine. Atlas des migrations dans le monde, Réfugiés ou migrants volontaires, Alternatives Economiques, éd. Autrement, Paris, 2009.*

⁹⁶ *Missing Migrants Project, IOM, <http://missingmigrants.iom.int>.*

⁹⁷ *Idem.*

⁹⁸ *Krebs V. et al., Languages, Cyberspace and Migration. In: Net.Lang : Towards the Multilingual Cyberspace, C&F Editions, Caen, France, 2012, pp. 230–246. http://net-lang.net//externDisplayer/displayExtern/_path/_netlang_EN_pdfedition.pdf.*

facilitate integration and to allow migrants to stay in touch with their families back home.

Community interpreting services and programmes are a way to address the linguistic gap between migrants and their host country. One such programme is called MigraLingua⁹⁹ and is coordinated by ICVolunteers¹⁰⁰, a volunteer-based international non-profit organization headquartered in Geneva, Switzerland. Initiated in Barcelona, Spain, the MigraLingua Programme has developed activities in different countries, including South Africa, Senegal, France and Switzerland. This paper aims to share some of the experiences of MigraLingua and tackle how best practices of this kind can be shared within the MAAYA Network (World Network for Linguistic Diversity)¹⁰¹ and used in new countries and contexts.

Community interpreting, socio-cultural mediation and translation

Community interpreting and socio-cultural mediation services and programmes are a way to address the linguistic and cultural gap between migrants and their host country. It is important to highlight the difference between each type of services.

The community interpreting service is mainly focused on overcoming the linguistic barrier that migrants encounter in situations such as going to the doctor, having a parent-teacher meeting, participating in a trial or any other legal encounter. Interpreters translate dialogue in order to facilitate communication between both parties without comment or intervention in the substance of the exchange.

A socio-cultural mediator intervenes when necessary in order to clarify cultural aspects of an exchange to either party. They might help solve problems/conflicts which occur as a consequence of a cultural difference or misunderstanding (as is well-known, each culture is different and particular, with its own habits, norms, values and socio-ethical codes which are not always shared or understood by other cultures).

The other difference between community interpreters and socio-cultural mediators is their working schedule: while community interpreters only work when their presence is required, during a determined period of time (which normally lasts around an hour or two), the socio-cultural mediators work

⁹⁹ *MigraLingua Programme, www.migralingua.org.*

¹⁰⁰ *ICVolunteers, www.icvolunteers.org.*

¹⁰¹ *World Network for Linguistic Diversity, MAAYA, www.maaya.org.*

for longer periods because their mission, besides the one of interpreting, is to accompany the beneficiaries of their services (migrants) wherever they need and explain to them cultural and local issues they might be unconscious of. The socio-cultural mediators may also translate some documents if required. There are different programmes all around the world which provide these services to cover concrete requirements.

MigraLingua: history and current actions

When launched in 2006 in Barcelona, the MigraLingua Programme carried out a study outlining the situation related to Barcelona's allophone population¹⁰² and community interpreting in Catalonia.¹⁰³ By transforming from a country of emigration to a country of immigration at the end of the 1990s, Spain has been confronted with new problems in terms of the needs of migrants. Although Spain is today recognized as a country of immigration, the debates on integration are still relatively new, posing major challenges for local government. In parallel to the study, one of the first activities developed by ICV's MigraLingua Programme was a set of training modules, called "introduction to community interpreting" in Barcelona. The training was aimed at individuals who were themselves immigrants but who had integrated into the host country's society and master both Spanish and/or Catalan in addition to their language of origin. The trained community interpreters intervened in particular in the health and social sectors.

Similar work was also implemented in Geneva, Switzerland, where a more extensive study was realized and published.¹⁰⁴ Close to 40% of the population living in the canton of Geneva is not Swiss. Geneva is also the most cosmopolitan canton of Switzerland with over 180 nationalities represented.¹⁰⁵ In addition to the community of foreigners working for international organizations or multi-national corporations in Geneva there is a whole population of migrants

¹⁰² *An allophone is a speaker whose mother tongue is a language other than the official language(s) spoken in a given territory and who usually resides in this territory. For example, in Catalonia, an allophone is a person whose mother tongue is a language other than Catalan or Spanish.*

¹⁰³ *Speak to me, Speak here, Linguistic Situation in Barcelona, ed. ICVoluntaris.org, 2007, Report available in three languages: Catalan, http://www.migralingua.org/migralingua/files/rapport_barcelona_ca.pdf, Spanish, http://www.migralingua.org/migralingua/files/rapport_barcelona_es.pdf, English http://www.migralingua.org/migralingua/files/rapport_barcelona_en.pdf.*

¹⁰⁴ *Office Cantonal de la Statistique, http://www.geneve.ch/statistique/domaines/01/01_02_1/tableaux.asp#20*

¹⁰⁵ *Giving a Voice, Report on the Language Support for Non-French Speaking Migrants in Geneva, ed. ICVolunteers.org, available in two languages: French, http://www.migralingua.org/migralingua/files/rapport_geneve_synt_2012_fr.pdf, English, http://www.migralingua.org/migralingua/files/rapport_geneve_synt_2012_en.pdf.*

of various statuses who often find themselves in situations of precariousness and difficulty. This varied migrant population is supported by a multitude of organizations which strive to respond to questions related to the reception of foreign populations and the building of diasporas. The study looked at the services available and whether they responded to the needs of migrants. Based on interviews and different types of surveys, the study analyzed what areas of need were not at all or only partially covered. It served as a reference for the local authorities and was appreciated by the federal authorities as well. Based on the findings of the study, ICV's MigraLingua Programme subsequently concentrated its efforts around community interpreting in the school sector, as it appeared that this sector was the one with the greatest non-filled needs. Many parents had problems communicating with their children's school and would, for example, skip parent-teacher meetings rather than find themselves in a situation where they could not properly follow the discussion. "The question that always comes up is: what can we do to reach migrant families, to help them integrate into the community and to facilitate their understanding of the Swiss school system," points out Ms. Anne-Thorel Rueggsegger, Coordinator of the GAPP (Geneva Group of Parent-Teacher Associations for Primary Schools). She continues, "In some cultures, such as the Albanian one, for example, the concept of repeating a class does not exist. It is thus not just a question of dealing with the language barrier, but also of strong cultural differences. It is very important to overcome these obstacles because we know that the more parents are involved in their children's schooling the more children are likely to succeed."

Over the years, the scope of MigraLingua's Geneva services has broadened, directly assisting individual migrants with interpreting and translating, as well as providing community interpreters to the city's social institutions, collaborating with organizations such as the Geneva Red Cross. In these formal contexts, the most frequently requested languages are currently Tigrinya, Somali, Kurdish, Albanian and Arabic. When contacted by individuals or other institutions, the demand ranges from Portuguese to Spanish and from Turkish to Bengali.

MigraLingua's introductory courses to community interpreting are being followed by ICV's own community interpreters as well as individuals who are working in other social structures. "The different visits and testimonials during this community interpreting training have allowed me to grasp the complexity of the task of the interpreter, as well as our central role in intercultural communication," points out Fabien, a French-Chinese interpreter who participated in the training in 2014. Sandra Oliveira, a French-Portuguese interpreter who took part in the training in January 2015, assessed the role of the interpreter as follows: "The interpreter plays a very important role

and has a great responsibility, because as an interpreter you are not only the bridge between two languages, but also between two cultures and two realities, which are sometimes completely different.” She added that, while working as a community interpreter, she could help migrants to communicate and thus better integrate into their new life in Geneva.

In addition to the linguistic support provided through community interpreting and translating, the MigraLingua Programme develops activities promoting interculturalism. This includes a photo campaign, as well as socio-cultural and music events. The MigraLingua Photo campaign launched in March 2015 aims to help the public discover new cultural realities at the local level while developing a network of artists interested in the topic at the international level. This double movement from local to international and vice versa, summarizes the idea behind the campaign topic: “A World of Diversity... different yet the same”. The campaign is in the process of selecting pictures for exhibitions in Geneva, as well as internationally. It was launched during the “Week Against Racism” at a poetry recital titled “Celebrating diversity” where poets or poetry lovers could read, in any language, their favorite piece of work. This kind of cultural, musical or networking event is organized regularly at ICV Arcade.¹⁰⁶ Art can be compared to a language and is an important cultural component. The experience of an artistic performance related to a different culture opens the door to discussion and mutual understanding. It is with this in mind that the *Caravanes du Monde* concept¹⁰⁷ hosts world music, live fusion concerts, dance or even martial arts performances to give the opportunity to experience cultural diversity in a positive setting. During the events, the culinary specialties of the people, ethnic group, region or country represented by the artistic performance are provided. These events are also a means to get in touch with community organizations and to network. Digital recording then makes it possible for the content and music performances to be shared beyond national borders.¹⁰⁸ In addition, the Community Café (*Café Communautaire*) was initiated in 2015, in order to strengthen collaboration among diverse institutions and organizations working in the field of migration. Debates, sharing best practice and partnering for a specific event are among the specific activities of the Community Café.

Finally, ICV’s experience has shown that projects implemented in places like Geneva often have to take into consideration the various languages spoken by

¹⁰⁶ ICV Arcade, www.icvarcade.org, www.facebook.com/icvarcade.

¹⁰⁷ ICV Arcade, *Caravanes du Monde* events, http://www.icvarcade.org/index.php?what=tbl_pages_main&id=94.

¹⁰⁸ ICV Arcade on YouTube, www.youtube.com/user/icvarcadelive, www.youtube.com/playlist?list=PLz2Z6exVv41xDwY-zSq-uLBiHvovzGEd75.

the population, on the one hand, and the integration of newly arrived migrants, on the other hand. For example the ACTing initiative¹⁰⁹, a project financed by the European Union and of which ICV is a partner, provides support to seniors in the area of Information and Communication Technologies (ICTs). The so-called “social agents” are trained to be able to give courses to elderly people who choose an activity they would like to realize, i.e. to learn how to send emails, to be in touch through Skype with family in other countries, to share pictures through their mobile digital devices, etc. It turned out that several of the individuals who signed up to become social agents were themselves migrants searching for an activity in which they could socialize, make contacts, learn the local language and acquire professional experience. Dora Greco, a young lady of Italian origin who had recently moved to Geneva, has been able to improve her French, while sharing her knowledge about ICT with seniors. Being an assistant nurse in geriatrics, the activity provided her an experience with seniors in her new country of residence. Some seniors, from Central and South America, had the opportunity to have an ICT training in Spanish. An Argentinean lady, Karina Murillo Gut, who has been living in Geneva for the past six years, gave classes in her mother tongue. As she is preparing a Swiss Federal Diploma as Trainer for Adults, the classes she gave will support her CV and future professional life.¹¹⁰

The MigraLingua Programme has been implemented internationally to shrink language barriers in various ways, taking into account local needs. ICV's South Africa Desk, based at The Cape Town Volunteer Center (CTVC)¹¹¹, also developed activities related to migration. The CTVC works with volunteers and community organizations in the Cape Town region. It has some 300 members to which it provides volunteers and support. South Africa being one of the countries of immigration within Africa (receiving people from Sub-Saharan Africa, Zimbabwe, etc.), a project was developed called “Big Things Begin Little”. The initiative was specifically designed to raise awareness about other languages than English among children between the ages of 5 and 6 years. Two areas, *Ocean View* and *Mitchell's Plain* were chosen as the areas where this project was piloted. The main objective of this project was to broaden the minds of the children and to make them aware of countries outside of South Africa. When approached by the ICV Desk, Ms. Warriess, Principal of the Ocean View Scorpio Crèche, agreed enthusiastically to the idea of children in Ocean View having an opportunity to learn and speak French and understand the French culture thanks to the efforts

¹⁰⁹ ACTing project website, <http://www.acting4elderly.eu>.

¹¹⁰ https://www.youtube.com/watch?v=mq_JiCKRzQ4&list=PLzJ5UaD9sRhr3g8rM_GpluQwj18Svmmut&index=1.

¹¹¹ Cape Town Volunteer Center, www.volcent.co.za.

of French speakers sharing their knowledge through volunteer effort. Knowledge of French is particularly relevant as it is the most spoken international language in Africa besides English. Smaller activities have also been developed by ICV's French branch, as well as its desks in Mali, Senegal and Japan.

Community interpreters training: lessons learned

Typically, good community interpreter training involves from 20 to 200 hours of classes. While direct contact is important for some modules, others can be given online. These may include those related to methodology in the legal field, healthcare-related training and procedures. A good introduction to community interpreting should focus not only on language but also on topics related to the trialogue, intercultural communication and exercises related to the behavior to be adopted by the interpreter.

The modules proposed by ICV include the ABC of community interpreting such as: definition and expectations of a trialogue, intercultural communication, as well as participants receiving a set of online tools and links. A specific module refers to the local school system, another to medical interpreting and participants are invited to visit centres for migrants. The introduction to community interpreting lasts up to 20 hours; it gives the basics to bilingual individuals to behave professionally when interpreting. Participants acquire a good knowledge of local policies, administrative requirements and local government systems, which will be shared during their interpretation sessions but also with their relatives and communities. The linguistic support for migrants by migrants allows important information to reach migrants communities, including newly arrived allophones, which makes the added value of the initiation.

Longer training courses do exist, which go beyond an introduction and may lead to certification, such as the one proposed by Interpret in Bern, Switzerland¹¹² and online by DPSI Online, based in the United Kingdom.¹¹³

It is noteworthy that in 2015, community interpreters who worked with MigraLingua while unemployed have totally embraced the role or used the MigraLingua experience to improve their curriculum vitae: demonstrating their motivation, ability to communicate in French and their reliability. The certificate issued at the end of the introduction is highly valued in this context. MigraLingua also provides intermediate work certificates to support the interpreters actively seeking a job.

¹¹² *Interpret*, www.inter-pret.ch.

¹¹³ *DPSI online, Online Training for Interpreters and Translators, Community Interpreting Certificate 2015*, <http://dpsionline.co.uk/courses/community-interpreting>.

Conclusion

Sharing the experience in the field of linguistic support for migrants between organizations at the international level leads to a network that can communicate with ICT tools. Even if local realities vary, the exchange is a source of opportunities, knowledge, know-how, assessment and skills.

The MigraLingua Programme has been expanded internationally because linguistic support to migrants is of the utmost importance for integration within the host country or for improving communication between individuals within a region.

Articles such as this are a medium for sharing MigraLingua's experience with other entities, however ICT tools allow topics to be further developed through virtual dialogues and to structure the exchange into a network.

ICV is specialized in the field of communication in a broad sense and it has developed an international network of individuals, associated NGOs and partners that make the projects and programmes happen. With this experience and vision a new project has been launched to tackle the challenges related to migration and language services.

Launch of a new international project

A new enquiry has been launched by ICVolunteers, in collaboration with MAAVA, the World Network for Linguistic Diversity¹¹⁴, in order to share internationally best practices on migration and language services among different organizations. Whether it is community interpreting or different online translation and interpreting tools, they can all contribute to better understanding among people and communities. In order to build useful links among organizations working in these fields and share best practices, the study is looking for input from a multitude of actors. Whether you work for an organization, in the academic environment or as an individual consultant, it would be fantastic if you could take a few minutes (max. 5 minutes) to answer our questions (<https://www.surveymonkey.com/r/maaya-fr> / <https://www.surveymonkey.com/r/maaya-en>).

Acknowledgements

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¹¹⁴ World Network for Linguistic Diversity, MAAVA, www.maaya.org.

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Russian Committee of the UNESCO Information for All Programme and Interregional Library Cooperation Centre: Activities to Promote Linguistic and Cultural Diversity in Cyberspace

Ladies and gentlemen, friends,

Before we pass to the central theme of our report to tell you what the Russian Committee of the UNESCO Information for All Programme and the Interregional Library Cooperation Centre are doing to support and develop linguistic and cultural diversity in cyberspace, we would like to tell you in a few words what these two organizations are about and what their duties are.

The Russian Committee of the UNESCO Information for All Programme is an expert council at the Commission of the Russian Federation for UNESCO. Its members are the most prominent librarians, archivists, museum workers, researchers, political activists, and representatives of ruling bodies, nongovernment organizations and private businesses. The committee was established in 2000 to promote the UNESCO Information for All Programme in Russia and promote in UNESCO the Russian view on the building of the information society/knowledge societies.

Committee duties are, in particular:

- To promote the UNESCO Information for All Programme (IFAP) and the implementation of its ideas, concepts, goals and practical priorities on the national and global scales;

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- To promote the streamlining of policy and legislation in culture, education, communication and information for the establishment of knowledge societies;
 - To promote scientific theories and research method setting;
 - To support the formation of pioneer experience centres and the improvement of institution work for the establishment of knowledge societies.

The basic IFAP fields of activity are:

- Cooperation with leading Russian and international government agencies and NGOs and research, education, culture, information and communication experts;
- Participation in expert analyses of international instruments, Russian laws and other documents in the sphere of Committee competence;
- Preparation of analytical papers, reviews, expert conclusions and recommendations;
- Participation in drawing directives and materials for Russian delegations to international organization sessions, international conferences, negotiations and consultations;
- Participation in the work of Russian intersectoral agencies.

Since its establishment, the Committee has held a great many national and international events in all IFAP priorities – information literacy, preservation, accessibility and ethics, information for development, and multilingualism in cyberspace.

The Committee has drawn a number of analytical reports on these problems, and published over 60 books on the various aspects of knowledge society building.

Probably, the conference UNESCO between the Two Phases of the World Summit on the Information Society was the most ambitious of IFAP Committee initiatives. It gathered delegates from 55 countries in St Petersburg in 2005.

The Russian IFAP Committee is not a legal entity, so it needs a working body to draft practical projects and secure funds to implement them. That is the Interregional Library Cooperation Centre: a non-state and non-government agency with the legal status of an interregional public organization representing its class of nonprofit organizations. Such organizations are entitled to soft taxation and reduced rents in Russia. Going hand in hand with these privileges are certain restrictions: we have no right to commercial activities, profit making and fund accumulation.

The Centre was established in 1995.

Apart from work for UNESCO, the basic duties of the Interregional Library Cooperation Centre are:

1. Participation in the formation and implementation of the national policy of reading promotion and development. We have drawn the National programme for reading promotion and development, under which we have held close on 50 research and practical seminars and workshops in all parts of Russia since 2007. We have prepared and published 25-plus philosophical and sociological books, methodological recommendations for libraries, educational establishments, media and regional authorities. We arrange an annual national conference whose name speaks for itself: “The National Programme for Reading Promotion and Development: Problems and Prospects” in a prestigious venue – President Hotel, one of Moscow’s highest-class places.

2. Participation in the formation and implementation of the national policy in librarianship in close teamwork with the Library and Archive Department of the Ministry of Culture of the Russian Federation. We are de facto coordinators of implementing the National programme of Russian library stock preservation through digitization in collaboration with all major Russian federal and regional libraries, and we have prepared and published many books on this and related themes.

3. We are also closely addressing the **problems of information access** and coordinate the National programme for a national network of centres of public access to the entire stock of Russian legal and other socially important information. At present, there are about 7,000 such library-based centres. We made a survey of the network in 2010 and summarized it in an analytical report we drew and published.

4. Interregional Library Cooperation Centre organizes **major national and international conferences, seminars and roundtables** – over a hundred within the preceding 10 years.

5. We have prepared and published **over 60 books**. 25,000 copies of these were passed free to public and research libraries in Russia, Ukraine, Belarus, Kazakhstan, Kyrgyzstan, Azerbaijan and other countries.

We would like also to say a few words about our UNESCO-related work.

The activity of the Russian Committee of the UNESCO Information for All Programme is known well enough in many countries – suffice to mention that Evgeny Kuzmin, Russian IFAP Committee Chair and Interregional Library Cooperation Centre President, was twice elected Chair of the Intergovernmental Council of the UNESCO Information for All. Naturally,

throughout the four years of his IFAP presidency, the Centre was a working branch not only of the Russian IFAP Committee but also of the Secretariat of the IFAP Intergovernmental Council Chair.

Almost all projects we implement are joint ones of the Interregional Library Cooperation Centre and the Russian IFAP Committee because the two organizations are mutually complementary and indissolubly linked with each other.

Each of the listed fields of our work deserves a special big report, and we make such reports regularly.

Today, I want to call your attention only to landmark events that notably contributed to the success of our presidency of the UNESCO Information for All Programme. I will tell about some of them in brief.

The international conference “Preservation of Digital Information in the Information Society: Problems and Prospects” was convened in Moscow in autumn 2011 within the frame of Russian presidency of the UNESCO Information for All Programme.

The event gathered more than 150 experts from 37 countries, who represented topmost libraries, archives, museums, universities, research institutes, international organizations, government agencies, media, publishers, scientific and technological information centres, IT companies, and other entities interested in digital information preservation.

The conference unanimously endorsed its final document, *The Moscow Declaration on Digital Information Preservation*, which stresses how timely and important the conference theme is, and advances relevant measures in politics, education, research, economy, ICT industry, cooperation and coordination.

The conference was the first-ever major international and interdisciplinary forum on the topic in Russia and throughout UNESCO history.

It was followed by two national conferences on digital information preservation, organized by the Russian IFAP Committee and the Interregional Library Cooperation Centre, in 2012 and 2013. Both also adopted essential final documents. Their materials are collected in books published in Russian and English.

The international conference “Media and Information Literacy for Knowledge Societies” was our first step to promote efficient international cooperation in that field. The conference gathered in Moscow in 2012 to gauge the scope and acuteness of relevant problems in politics, education, communication and information, and in the public at large. It also aimed to advance political and professional strategies and promote media and information literacy at the national and international levels.

Conference participants from 40 countries, who belonged to various professions, summarized the event in the Moscow Declaration on Media and Information Literacy: a unique document that has won international acclaim. It was the first to offer a working definition of media and information literacy, which many national and international organizations are promoting.

The conference was continued fruitfully by the all-Russia research and practical conference “Media and Information Literacy in the Information Society” (2013). It was Russia’s first meeting on the topic at such a high level.

In assistance to Russian experts on information literacy and media competence we have published the materials of both conferences in Russian and English, and translated into Russian the Catalogue of Media and Information Literacy Skills, put out by the Modern Poland Foundation.

On September 8 through 12, 2013, Yuzhno-Sakhalinsk hosted the international conference “Internet and Socio-Cultural Transformations in the Information Society” – also the world’s first on its theme, with 46 countries represented. It set the goal of an all-round evaluation of the sweeping socio-cultural changes impacted by the Internet and other ICTs, with their content, trends, dynamism, character, scale, movers, and fruit.

The conference, which analysed its agenda from an interdisciplinary point, involved experts on ICT theory and practice, philosophers, sociologists, anthropologists, historians, political experts and activists, managers, creative writers, journalists, librarians, and representatives of museums, archives, universities, other cultural institutions, research, education, civil society and private businesses. Irina Gonyukova, the Sakhalin Region’s Minister of Culture, was the principal conference organizer on behalf of the regional government. I am glad that she is attending this meeting.

We have had a national conference on the same theme this year, and will convene a second international conference in Yuzhno-Sakhalinsk in 2016.

The Sakhalin Declaration on Internet and Social Transformations – the conference final document – won expert and professional community acclaim and is broadly circulated in Russian and English. Collected conference proceedings are also available in book form in Russian and English.

As for the basic theme of this report, our work to promote language diversity in cyberspace, we will speak about it also in brief but with a slightly greater number of details.

We first addressed the theme late in 2006, that is, close on nine years ago. It all began with a request of the Commission of the Russian Federation

for UNESCO, on which we drew for UNESCO Russia's national report on measures taken in Russia to implement the UNESCO Recommendation Concerning the Promotion and Use of Multilingualism and Universal Access to Cyberspace.

As we were working at the draft, we delved into the situation to see that we were the only persons in Russia to address the problem from the political point – the first and the only. There are thousands of excellent linguists and hundreds of competent political activists in Russia who take an interest in cultural diversity but no one of them has ever tackled seriously the promotion of languages in cyberspace, especially from the political point.

We have translated into Russian and published the works of many top-notch experts who are taking part in this conference, and prepared several books of our own. As the result, we determined to promote the theme by convening narrow-attendance seminars initially, and next go over to major ones. A circle of competent Russian experts gathered round us eventually.

To take stock of Russian efforts for multilingualism in cyberspace, we circulated two questionnaires, 40–50 questions in each, in Russia's leading universities and among regional governors, and obtained a huge amount of information from them. Its analysis revealed to us who was doing what to promote multilingualism in cyberspace.

The study shows that many people in politics, universities, libraries and archives are concerned with the preservation of languages and their development in cyberspace. But if they are to do more, they need methodological support and Russian-language information and analytical materials. So we collect such information to offer it on the Russian IFAP Committee website.

Later on, we advance the idea of an international conference on Linguistic and Cultural Diversity in Cyberspace, and received support from the federal Ministry of Culture, the government of Yakutia, and the UNESCO Moscow office. The conference, which took place in Yakutsk in July 2008, was attended by people from 15 countries of all continents. By convening it, Russia contributed to the International Year of Languages, which UNESCO proclaimed in 2008. The conference brought us our first international acclaim and priceless practical experience. It helped us to meet excellent Russian and foreign experts, who have become our partners and permanent participants of our conferences.

The final conference document is known as *The Lena Resolution*.

On July 12–14, 2011, Yakutsk hosted the 2nd international conference on Linguistic and Cultural Diversity in Cyberspace – one of the central events of Russia's presidency of the IFAP Intergovernmental Council. Gathering over a

hundred participants from 33 countries, it was a unique venue for transnational exchanges of trailblazing experience in politics, and the standards and tools of the preservation and development of linguistic and cultural diversity in cyberspace.

The conferences resulted in a Centre to Advance Multilingualism in Cyberspace established in Yakutsk.

On Adama Samassekou's initiative, the closing session of the 2nd conference unanimously adopted its final document, *The Yakutsk Call for Action: A roadmap toward the World Summit on Multilingualism (2017)*.

On June 28 through July 3, 2014, the 3rd international conference on Linguistic and Cultural Diversity in Cyberspace was held in Yakutsk. Getachew Engida, UNESCO Deputy Director-General, highly evaluated its professional qualities and organization, saying that the event came as Russia's another honourable contribution to the UNESCO cause, in which the preservation of linguistic and cultural diversity was among top priorities.

Close on 50 countries representing every part of the world sent their leading experts, cultural activists, researchers, educationists, politicians and diplomats to the conference.

Discussions at the 2nd conference (Yakutsk, 2011) focused on the institutions and instruments of promoting multilingualism, the formation of friendly environment for its preservation in everyday life and development in cyberspace. The 3rd conference brought into the foreground the following themes, to which its sections owed their names:

- The use of ICT for the preservation of linguistic and cultural diversity in cyberspace;
- Linguistic and cultural diversity in cyberspace: the socio-cultural aspect;
- The preservation of linguistic and cultural diversity: national perception and national experience;
- Education for the preservation of linguistic and cultural diversity in cyberspace.

Conference participants were glad to notice that it was drawing ever more attention in the world.

The conference was finalized with the adoption of *The Yakutsk Declaration on Linguistic and Cultural Diversity in Cyberspace*.

The proceedings of the first two conferences have appeared in print in Russian and English, while a collection of the 3rd conferences was given to every participant of today's meeting.

On October 28–29, 2014, the UNESCO Headquarters in Paris hosted an international expert meeting on improving access to multilingual cyberspace, timed to the Days of Ugra in UNESCO. We organized it together with the UNESCO Communication and Information Sector, with financial support from the Government of the Khanty-Mansi Autonomous Okrug – Ugra.

The meeting largely proceeded from the achievements of the 3rd international conference on the theme (Yakutsk, summer 2014). Dominating the agenda were:

1. Discussion of measures to implement the Yakutsk Declaration;
2. Discussion of steps to transform the UNESCO Atlas of the World's Languages in Danger into an Atlas of the World's Languages.

As the meeting in Paris showed, the preservation and development of languages in cyberspace is a burning issue for the entire world. The discussion concerned, as never before, not only endangered minority languages but also major African languages without deserved status, and about United Nations official languages that are rapidly losing their positions to English. The participants also said that languages were not only cultural heritage but also bearers of a tremendous potential for cultural and ideological influence and economic benefit. Every major country makes large-scale efforts to promote developing countries' languages, especially to represent their national and local content in cyberspace.

The Paris meeting was summarized in a final document named "Final Recommendations for the Action Plan of UNESCO's World Atlas of Languages".

All our publications in every field of our work are available in full-text form on our websites.

More than 30 countries are represented at this World Meeting. We are glad to see it, and we thank all who have accepted our invitation. We hope that this meeting will bring us many new friends and partners, and we will launch good new projects together, find the money they require, and implement them.

We look forward to cooperation and invite everyone to join us.

Sergey BOBRY SHEV
Vice-Director, ParaType Ltd.
(Moscow, Russian Federation)

ParaType Global Multilingual Fonts

Multilingualism is a key factor in ensuring harmonious communication across cultures. It helps us interact in the global information environment and to get engaged in international collaborative efforts, thereby promoting peace, mutual respect and understanding in the world.

The languages spoken in Russia number more than 200, and they belong to the following four families: Indo-European, Altaic, North Caucasian, and Uralic. In recording and transmitting textual data (expressed in whatever linguistic form), all of these languages use the Cyrillic alphabet.

The world's various communities these days tend to operate more and more extensively in a global information landscape, regardless of their respective languages and scripts. This tendency has inspired the ParaType company to attempt to create a universal font system, one that would support most of the natural languages and scripts currently in use. The system will come as a follow-up to a nation-wide typeface project, Piter (PT Sans & PT Serif), designed for ethnic languages of Russia's member states.

To be able to develop all-inclusive fonts, one needs to know whether this or that alphabet has any special symbols in it and how these are represented. The Unicode Standard now covers an overwhelming majority thereof.

Cooperation with the Unicode consortium, as well as with certain professional organisations in Greece, India and other countries, helps ParaType monitor current trends with regard to scripts and their constituent characters.

We aspire for our universal font to meet the following requirements:

- multilingualism, i.e., support of multiple language-specific scripts;
- universal accessibility.

These two characteristics are crucial to providing solutions to a wide range of font-related problems that stand in the way of cross-language communication in cyberspace.

By commonly accessible fonts, we mean ones that are either supplied as part of an operating system or made available on the Web as a downloadable open-source tool.

The accessible language-specific fonts that already exist out there fail to meet a number of requirements. Most of the currently available open-source fonts are poorly crafted – both in terms of design and technical quality. And among the typefaces supplied with Microsoft Windows, few have an extended character set, and the list of languages and scripts that these few do support is still very limited.

In these circumstances, it would make sense for UNESCO to commission (either directly or via an investor) global multilingual fonts and to make them available in cyberspace, once designed. Preferably, such typefaces should be incorporated into localised versions of the operating systems distributed in Russia (Apple Mackintosh and Microsoft Windows), to provide support for at least all major languages of the world that have a writing system.

It was these considerations that became the foundation for the Piter (PT Sans & PT Serif) project built by ParaType in 2009–2011, with a Russian government grant.

PT Sans & PT Serif: typeface features

The Piter project’s initial stage culminated in the presentation of our first type family, one that became known as PT Sans (i.e., “sans serif”). And in 2010, the group came out with another, PT Serif typeface, designed following the same proportions. For the PT Sans & PT Serif fonts’ distinctive features, see Fig. 1.



Figure 1. Features of PT Sans & PT Serif Font Families

PT Sans is a sans-serif typeface intended for broad use. It is toned-down yet catchy. Modern sans-serif features make it up-to-date both functionally and aesthetically, in line with the present day's needs.

PT Serif was developed following the same proportions as PT Sans, also as a broad-use type family. PT Serif is a modern, easy-to-read serif, suitable for book and periodical print as well as for Web page design. It marries the moderate conservatism of character design (inspired by the famous ancient Trajan's Column, in Rome) with contemporary trends, and boasts a higher level of screen legibility and distinguishability.

PT Sans & PT Serif: character set

The Piter typefaces incorporate more than 1,000 characters overall. Along with the standard character set for Western and Eastern European languages and the standard Cyrillic set, they include characters from the scripts of Russia's ethnic languages eponymous with the names of its constituent non-Russian member states. This makes the fonts a one-off enabling instrument in preserving and advancing the literature of this country's many ethnicities.

The availability of a single, free-to-access typeface, with full support for the writing systems of minority languages, allows to provide for the needs of education, culture and the arts, the media, government agencies, and businesses. More importantly, this new product makes it possible for members of ethnic minority communities to maintain day-to-day e-mail contact among themselves in their respective mother tongues. And beyond, the tool enhances our common potentialities for promoting ethnic language resources on the Internet.

Having a single font family for most languages spoken in a country is a key prerequisite for interethnic communication based on the same standard, in terms of coding as well as in the design of identical characters found in similar languages and dialects. This could help neighbouring cultures avoid isolation owing to different spelling.

Unifying scripts around a universal multilingual font

In 2014, ParaType decided to extend its Piter typeface system to integrate major non-Latin and non-Cyrillic scripts. The company had by then already gained some expertise in developing fonts based on several such scripts – notably, Armenian, Georgian, Hebrew, and Arabic (Naskh and Kufi).

Engaged in the effort as linguistics experts were research fellows from the Russian Academy of Sciences' Language Studies Institute. They lent us a hand in building a character set for the PT Sans and the PT Serif type families and in preparing a special section with information on ethnic language scripts for the Web site www.fonts.ru.

We also turned for guidance to experts from the Russian Committee of the UNESCO Information for All Programme (the committee is headed by Evgeny Kuzmin), as well as from the Greek company ParaChute (CEO Panos Vassiliou) and from India's Hyderabad University (notably, Dr. J. Prabhakar Rao, Professor of Linguistics at the HU Centre for Applied Linguistics and Translation Studies).

Our first global version of the PT Sans typeface has been developed by now, and is ready to be used. Along with an extended Cyrillic alphabet, it supports all of the European languages as well as the Greek writing system and Devanagari. This adds up to typeface support for as many as 184 languages, using four different scripts.

Abazin,	Comorian,	Hungarian,	Latin,	Ossetic,	Talysk,
Abkhazian,	Cornish,	Icelandic,	Latvian,	Pali,	Tat,
Adyge,	Corsican,	Indonesian,	Lezgin,	Pedi,	Tatar,
Afar,	Crimean Tatar,	Ingush,	Lithuanian,	Persian (lat),	Teleut,
Afrikaans,	Croatian,	Italian,	Livvikovskiy,	Polish,	Tofalar,
Aghul,	Czech,	Itelmen,	Ljudikovskiy,	Portuguese,	Tongan,
Akan,	Danish,	Javanese (lat),	Macedonian,	Rhaeto-Romance,	Touva,
Albanian,	Dargwa,	Kabardian,	Maithili,	Romanian,	Tsakhur,
Aleut,	Delaware,	Kabardino-Cherkessia,	Malagasy,	Russian,	Tswana,
Aliutor,	Dolgan,	Kazakh,	Malay (lat),	Russian Old,	Tubalarsky,
Altaic,	Dungan,	Kalmyk,	Maltese,	Rusyn,	Turkish,
Aragonesse,	Dutch,	Karachay-Balkar,	Manci,	Rutul,	Turkmen,
Asturian,	Enets,	Karaim,	Mandinka,	Saami Kildin,	Udeghe,
Avar,	English,	Karakalpak,	Maori,	Saami Lule,	Udmurt,
Azeri,	Eskimos,	Karelian,	Marathi,	Saami South,	Uighur,
Bashkir,	Esperanto,	Kashubian,	Mari-high,	Salar,	Ukrainian,
Basque,	Estonian,	Kazakh,	Mari-low,	Sanskrit,	Ulch,
Byelorussian,	Evenki Tungus),	Ket,	Moldavian,	Selkup,	Uzbek,
Bislama,	Even (Lamut),	Khakass,	Mongolian,	Serbian,	Valencian,
Bodo,	Faroese,	Khanty,	Mordvin-Erzya,	Shor,	Veps,
Bosnian,	Fijian,	Kildin,	Mordvin-Moksha,	Silesian,	Vietnamese,
Breton,	Finnish,	Khasi,	Nanai,	Sindhi,	Yakut,
Bulgarian,	French,	Kirghiz,	Negidalsky,	Slovak,	Yukagir,
Buryat,	Frisian,	Komi-Pem,	Nenets,	Slovene,	Zulu
Catalonian,	Friulan,	Komi Zyryan,	Nepali,	Sorbian Lower,	
Cebuano,	Gaelic,	Konkani,	Nganasan,	Sorbian Upper,	
Chamorro,	Gagauz,	Koryak,	Nivkh,	Sotho,	
Chechen,	Galician,	Kryashen,	Nogai,	Spanish,	
Chukcha,	German,	Kumyk,	Norwegian,	Swati,	
Chulym,	Greek,	Kurdish,	Occitan,	Swedish,	
Chuvash,	Greenlandic,	Ladin,	Orok,	Tabasaran,	
Comanche,	Hindi,	Lak,	Oromo,	Tadzhik,	
					Latin
					Cyrillic
					Devanagari
					Greek

Figure 2. Language support of the global multilingual font PT Sans

With such vast language support, PT Sans can already reach out to as much as 65% of the world's population, spanning 80% of the territory where the featured languages are spoken.

Adding Devanagari has been an important step along the way. This script is used by more than ten different languages, including Sanscrit, Hindi, Marathi, Sindhi, Bhili, Bihari, Marwari, Konkani, Bhojpuri, Nepali, and Newar, as well as, occasionally, by Kashmiri and Romani, with almost 800 million speakers overall.

Fig. 3 shows major Devanagari characters, as well as some special writing symbols such as matra (dependent vowel) and half-form glyph. A text typed using our font turns out smooth and easily legible. This has been achieved through the use of special processing techniques and know-how, including kerning and the TrueType glyph instructions.

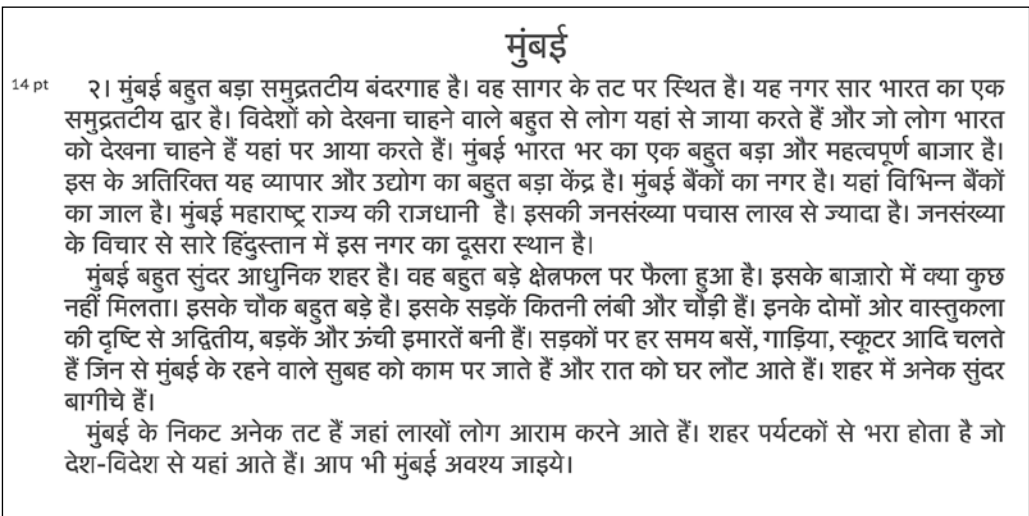


Figure 3. Characters and a text written in the Devanagari script, and using the PT Sans font

This is the first leg of our global multilingual font project. The second leg will involve extending the character set to include Simplified Chinese (some 2,000 characters); Arabic (specifically, its cursive script known as Naskh) is to be added at the third stage.

The entire project could be completed by late 2016. It aims to build a universal font that would enable users to prepare any kind of documents, drawing on Web resources in almost any of the world's written languages.

Conclusion

In my concluding remarks, I would like to make it clear that our forthcoming typeface system is intended as open-source software. It will therefore be free for any person or legal entity to use as they see fit, including copying, distributing, modifying, and inserting.

The year 2011 saw an event that highlighted the importance and significance of the PT Sans & PT Serif fonts for multilingual visual communications – Apple Inc. included PT Sans into its Mac OS 10.7 operating system.

Hopefully, the popularity of Piter type families will grow further overtime and they will become global IT players.

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Facing the Future for Minority and Endangered Languages: A Multilingual Global Data Infrastructure

Adama Samassekou, Mali's former Minister of Education, offered the following challenge to the attendees of the Ugra Global Expert Meeting on Multilingualism in Cyberspace:

What will be the added value of this meeting? The issues have been well identified. It is now time to move from words to action.

While the Ugra meeting offered an occasion for many people active in language and technology to exchange ideas, it did not result in a direct response to Samassekou's call. This paper suggests a concrete set of actions toward addressing important issues of resources and equity in multilingual cyberspace.

Progress on multilingual access to the digital universe must proceed along two tracks. The first track is the development of resources, such as lexicons, translation systems, and learning software. This track occupies the attention of most people involved with language technology, producing ever better resources for major languages such as English, French, and German. However, the unprofitable second track is widely ignored by industry and policy planners: equity, to distribute access to the technologies among the billions of people who do not speak the favored tongues.

A major obstacle toward equity for excluded languages is that the development of underlying technologies is prohibitively expensive. Rather than reusing systems that have been developed for the well-financed tongues, much basic work must be reinvented for every language – data structured, websites designed, servers configured and maintained.

A second obstacle, for both equity and resource development, is the lack of a core of language data that can be shared among projects. There is no easy starting set of reference terms to produce a dictionary between English or French or Russian (etc.) and another language. There are no agreed-upon meanings that a machine translation programme could call upon – that is, no way of confirming that a term mapped to “pen” from one language refers to the

same idea of a writing implement (as opposed to an animal enclosure) as a term mapped to “pen” from another language. And there is certainly no common data that could be used to build tools such as spell-checkers or speech recognition systems for most languages.

What is needed is a global language data infrastructure, with shared resources to promote language equity. Such an infrastructure would include monolingual dictionaries for each language, separated by sense so that each meaning and each inflection of each term could be treated as a linkable data element. Terms would be linked across languages by meaning, so that transitive communication chains could emerge even between two languages that are not directly paired. And tools to make use of this data would be shared across languages, rather than kept for proprietary purposes.

This is more than a call into the wind. The Kamusi Project has already laid the groundwork for such a system, currently nearing 1.5 million terms linked among more than 20 spoken languages, and the tools to grow data systematically over time for all 7000. The data model for Kamusi is explained at http://kamusi.org/molecular_lexicography. Within the Kamusi environment, we will soon be launching games and mobile applications designed to bring in data for numerous languages, and sharing it with the public for free.¹¹⁵

Unitary action will never accomplish the goal of a global language data infrastructure, however. What is needed is unified action – a consortium of language specialists and language technologists, committed to developing data and tools that can be widely shared. To that end, dozens of groups around the world have already signed their intent to participate in a “Human Languages Project” (HLP), planning to do for linguistics what the Human Genome Project did for genetics and the Human Brain Project is attempting for neuroscience. A preliminary outline of the project can be read at https://www.dropbox.com/s/flmpytr8w3dayzv/Kamusi_Collaboration.docx?dl=0. When funded, the HLP will work toward a complete matrix of human expression across time and space, collecting data for each language and deploying that data equitably within ICT. Importantly, practitioners of minority and endangered languages number significantly among the signatories of the HLP.

Most specifically in relation to the work of UNESCO that is of concern to many of the attendees of the Ugra meeting, the Atlas of the World’s

¹¹⁵ *The PowerPoint version of this presentation for the Ugra meeting, which includes screenshots of beta versions of the Kamusi games, can be viewed at https://www.dropbox.com/s/q63guxs4ejrut5o/global_data_infrastructure_siberia.pptx?dl=0.*

Languages in Danger is expected to evolve into an even more ambitious Atlas of World Languages. This Atlas can both contribute to and benefit from the resources of the HLP. The Atlas entry for each language can be harnessed as a portal that will direct people with knowledge of a particular language to the HLP tools to contribute to that language's development. At the same time, the Atlas can embed data services from HLP for each language, such that readers could perform dictionary lookups, translations, and other communication tasks directly from a language's page. More than providing metadata about a language, the Atlas can become a major resource for disseminating as much actual linguistic data as can be compiled by the international contributors to HLP.

In response to Samassekou, then, I propose two specific ways to move from words to action in the quest to advance resources and equity for multilingualism in cyberspace. First, interested parties, whether or not in attendance at the Ugra meeting, are invited, urged, and implored to join the Human Languages Project – contact kamusi+hlp@gmail.com to discuss your participation. Second, let us consider how to make the Atlas of World Languages symbiotic with the current resources of Kamusi and the future activities of the HLP, providing a home base for thorough knowledge of and about languages far and wide. In these ways we can answer Samassekou's call to move from words to action, through the active creation and utilization of a global data infrastructure for all the world's words.

UNESCO's Atlas of the World's Languages in Danger: Its Use and Possible Improvement

1. Introduction

In countries such as the Netherlands, Germany and New Zealand, it is obvious which minority languages have to be regarded as being endangered, i.e. Frisian, Sorbian and Maori, respectively. In other countries, the situation is far more complicated and various factors should be considered in order to reach an understanding of the overall sociolinguistic situation of a language with respect to its degree of endangerment. The following paper summarizes UNESCO activities focusing on gathering information on the degree of language endangerment and its visualisation in UNESCO's Atlas of the World's Languages in Danger. This Atlas considers various stages of endangerment and provides a survey of the available data on these languages in separate areas of the world. It is intended to raise awareness about language endangerment and the need to safeguard the world's linguistic diversity among policy makers, speaker communities and the general public, and to be a tool to monitor the status of endangered languages and the trends in linguistic diversity at a local level. A digital version of the Atlas makes it possible to correct and add information on particular items based on new available data. This keeps the contents on minority languages up-to-date, improves the Atlas and provides a source for comparative research and the preparation of materials for teaching and other purposes.

2. Assessing language vitality and endangerment

In 1995 UNESCO launched a Clearing House for the Documentation of Endangered Languages in Tokyo. Since then many international meetings have taken place, either addressing the problem of language endangerment in general or discussing a geographic approach (Africa, South America, the Russian Federation, etc.). Within the framework of these activities an International Expert Meeting was organized by the UNESCO headquarters in Paris in March 2003. There, an UNESCO ad hoc Expert Group on Endangered Languages presented a draft report entitled *Language Vitality and Endangerment* (UNESCO 2003) for discussion among a wide audience of linguists, language

planners, representatives of NGO's, as well as members of endangered language communities. At the meeting, a final document was produced and among the main outcomes the following nine core factors were identified to assess the language situation:

Degree of endangerment

- 1) Intergenerational language transmission;
- 2) Absolute numbers of speakers;
- 3) Proportion of speakers within the total population;
- 4) Loss of existing language domains;
- 5) Response to new domains and media;
- 6) Materials for language education and literacy;

Language attitudes and policies

- 7) Governmental and institutional language attitudes and policies, including official language status and use;
- 8) Community members' attitudes towards their own language;

Urgency of documentation

- 9) Amount and quality of documentation.

Factors from 1 to 6 are applied to assess a language's vitality and its state of endangerment. The most crucial single factor among them is factor 1, which determines the extent of language acquisition among the children within a community. It is obvious that a language without any young speakers is seriously threatened with extinction.

The dynamics of the processes of a given language shift situation is captured by factors 1 to 5. The proportion of speakers within a community (factor 3) reveals an important aspect of language vitality: is the minority language still an essential indicator for being regarded a member of the community or not? Can a person be a member of the community without speaking the heritage language?

The introduction of formal education or new job opportunities for the members of a minority group may result in the loss of domains in which the heritage language has been used up to then (factor 4). A shift in the religious affiliation of a community might result in a shift to another mother tongue, a language that is associated with the new religion (factor 5).

Factor 6 relates to the stage of development of a given language. Is there a community's orthography? Have the community members agreed on a

common standard form of writing? Are teaching and learning materials for the language available? Is there literature, such as newsletters, stories, religious texts, etc. published in that language? Factor 7 deals with the government's policies towards a language and factor 8 assesses the speakers' attitudes towards their ethnic language. Finally, factor 9 attempts to evaluate the urgency for documentation by focusing on the quantity and quality of the already existing and analysed language data.

Speech communities are complex and patterns of language use within these communities are difficult to explore. The evaluation of the state of vitality of any language is therefore a challenging task. Members of an ethnolinguistic minority or external evaluators can use the factors introduced above in order to describe a language shift situation and to analyse the kind and state of endangerment of a language. The UNESCO ad hoc Expert Group has introduced for each factor a grading system from 0 to 5. With factor 1, for instance, grade 5 stands for the use of the language by all members of the community, whereas grade 0 states that there are no speakers of this language left any longer. In applying all the factors to the language situation, a table of numbers is obtained, which characterizes the kind and state of endangerment for a language. The information in such tables can serve as a useful instrument not only for assessing the situation of a community's language, but also for formulating appropriate support measures for language documentation, maintenance, or revitalization.

3. Versions of UNESCO's Atlas of the World's Languages in Danger

The first version of the Atlas was edited by Stephen Wurm and published in 1996. It comprised 53 pages including 12 pages of maps showing some 600 languages. As a first publication of its kind, the Atlas met with vivid scholarly and journalistic interest and soon became a valuable reference book for the wider public.

The second, thoroughly updated edition of the Atlas was published by UNESCO in 2001, and expanded to 90 pages including 14 pages of maps showing some 800 languages. The update reflected the fact that since the first edition of the Atlas, research on endangered languages and scientific interest and work in the field has proliferated.

The latest print version of the Atlas was published in 2010. The Atlas lists some 2,500 endangered languages approaching the generally-accepted estimate of about half of the more than 6,000 languages of the world. It provides analytic reports on each region and attracts much academic, media and public attention. Hundreds of press articles in different parts of the world refer to the Atlas and underline its impact as an awareness-raising instrument regarding language endangerment.

Since 2009, the interactive version of the Atlas is available, which provides the following data for more than 2,500 languages: name, degree of endangerment (indicated by a coloured dot as a marker), location on the map and geographic coordinates, country, number of speakers, relevant projects, sources, ISO language codes.

The UNESCO online Atlas¹¹⁶ is an interactive digital resource that can be continually enriched with updated and more detailed information, accessible globally, free of charge, to anyone with a computer and Internet connection. The online version shows, at a click of the mouse on the marker, the exact latitude and longitude coordinates of a central point in the area where a language is spoken. It provides a wealth of other information and permits interactive contributions from the world's linguists, census takers and, most importantly, language communities.

4. Degrees of endangerment for the Atlas

On the basis of the assessment of language endangerment, the UNESCO Atlas of the World's Endangered Languages distinguishes the following six degrees with regard to intergenerational transmission (with the colour of the dots on the Atlas in brackets):

Safe: The language is spoken by *all generations*. There is no sign of linguistic threat from any other language, and the intergenerational transmission of the language seems uninterrupted.

Vulnerable (white): Most but not all children or families of a particular community speak the language as their first language, but it may be restricted to specific social domains (such as at home where children interact with their parents and grandparents).

Definitively endangered (yellow): The language is no longer being learned as the mother tongue by children at home. The youngest speakers are thus of the *parental generation*. At this stage, parents may still speak their language to their children, but their children do not typically respond in the language.

Severely endangered (orange): The language is *spoken* only by *grandparents and older generations*; while the parent generation may still *understand* the language, they typically do not speak it to their children.

Critically endangered (red): The youngest speakers are in the *great-grandparental generation*, and the language is not used for everyday interactions.

¹¹⁶ Web site: www.unesco.org/languages-atlas/.

These older people often *remember* only part of the language but *do not use* it, since there may not be anyone to speak to.

Extinct (black): There is no one who can speak or remember the language. In the Atlas those languages are indicated which became extinct since 1950.

According to the present Atlas data, nearly half of the languages spoken in the world are endangered.

5. Number of speakers and census data

Important factors determining the vitality of a language are the *absolute number of speakers* (factor 2) and the *proportion of speakers within the total population* (factor 3). It is impossible to provide a valid interpretation of absolute numbers, but a small speech community is always at risk. A small population is much more vulnerable to decimation (e.g. by a disease, warfare, or natural disaster) than a larger one. A small language group may also merge with a neighboring group, losing its own language and culture.

The number of speakers in relation to the total population of a group is a significant indicator of language vitality, where “group” may refer to the ethnic, religious, regional, or national group with which the speaker community identifies itself. The report of the UNESCO ad hoc expert group on Endangered Languages uses a scale from 0 (extinct: no speakers of the language) to 5 (all speakers of the ethnic group speak the language) to refer to the degrees of endangerment.

This situation can be illustrated by the census data of a number of Siberian languages, which also shows the change in time and the ongoing loss of the language and culture of these cases. As an example we provide the data for the Nivkh language, spoken by an ethnic minority in the Far East of the Russian Federation.

The Russian census in 2010 contained questions about personal data, citizenship (for the Nivkh – *Russian*), nationality (*Nivkh*), education and language use (*Nivkh* or *Russian*). Here one has to distinguish two meanings of ‘*Russian*’ (‘*Rossiyanin*’, citizen of the Russian Federation, or ‘*Ruskiy*’, belonging to the Russian nationality). The data for 2010 showed that out of 4,652 representatives of the ethnic group, 8.5% had Nivkh as their mother tongue and 91.5% Russian, whereas nearly 100% used Russian in daily life. In 1959 the population size was 3,717 with 76.3% having Nivkh as their mother tongue and 23.7% Russian. Similar results are found for other Siberian languages such as Yukaghir and Koryak. In his book on the *Languages of the Northern Peoples in the 20th Century*, Vakhtin (2001) provides similar data for the period between 1926 and 1989 and from this the following conclusion can be drawn: in 1926 most representatives of these Siberian

peoples were monolingual in their own language, whereas more and more took over Russian and at present most of them have become monolingual in Russian.

This situation is illustrative for many endangered minority languages and it will be important to show this clearly by adding the related diachronic data to the Atlas in order to further improve its quality.

6. Materials for language education and literacy

Education *in* the language is essential for language vitality. There are language communities that maintain strong oral traditions, and some do not wish their language to be written. In other communities, literacy in their language is a source of pride. In general, however, literacy is directly linked to social and economic development. There is an urgent need for books and materials on all topics for various ages and language abilities (factors 6 and 9).

The UNESCO ad hoc Expert Group distinguishes several grades for this factor of language vitality. The highest grade (5) is given when a language has an established orthography, literacy tradition with grammars, dictionaries, recorded texts, literature and everyday media. Writing in the language is used in administration and education. Lower grades are given for languages lacking part of these features and at the lowest level grade 0 is provided for languages with no orthography available in the community.

Several ethnic communities in the world get support from organisations which assist them in the development of their language and culture by providing materials for language learning and teaching. For example, the Foundation for Siberian Cultures¹¹⁷ founded in 2010 has the aim to preserve the indigenous languages of the Russian Federation and the ecological knowledge expressed in them (Kasten and De Graaf 2013). During our fieldwork expeditions to Sakhalin, Kamchatka, Northern Yakutia and Central Siberia we studied the processes of language shift and language death for some minority peoples of Russia, in particular for the Nivkh of Sakhalin, the Itelmen and Koryak of Kamchatka, and the Yukaghir of Sakha/Yakutia.

A digital library and ethnographic collections on the world wide web provide above all indigenous communities with open access to relevant scholarly resources and research materials. Recent or current projects are presented at regular shows on the Internet in the form of alternating photo-video shows. This provides a forum through which indigenous communities can participate and be informed about how their traditions are presented and received abroad.

¹¹⁷ Web site: www.kulturstiftung-sibirien.de/.

In the past we received research grants which made it possible to re-record material from collections of historical sound carriers according to up-to-date technology and to store them in safe places together with the related metadata. The results of present day fieldwork and the reconstructed data from sound archives provide important information for the preparation of language descriptions, grammars, dictionaries and edited collections of oral and written literature. These can also be used to develop teaching methods, in particular for the younger members of certain ethnic groups who do not have sufficient knowledge of their native language (de Graaf 2012).

Information about this kind of projects can be added to the Atlas by texts or links to the related websites. This feedback will further improve the quality of the resource.

7. Interactive Atlas user feedback

UNESCO has commissioned the Foundation for Endangered Languages¹¹⁸ to monitor and process the feedback from users of the online edition of the Atlas. In this way the Interactive Atlas is constantly improved and updated. The feedback is evaluated by the editorial board, and validated for updates, or addition of new content. Users are invited to submit comments through different channels, in particular directly via the Internet.

Each language entry in the online Atlas contains a tab for comments on any of the following elements:

- Correcting or completing this record (names, vitality degree, location, ISO code, etc) and providing online or bibliographic data;
- Sharing information on media or online resources (such as dictionaries, websites) for this language;
- Describing a recent or current safeguarding or revitalisation project for this language.

It is also possible for users to suggest a new language to be included in the Atlas. They can do this by filling out an online form. The suggestions from users can be broadly categorised as covering the following areas:

- Location of the markers;
- Status on the endangerment scale;
- Population figures and speaker numbers;

¹¹⁸ Web site: www.ogmios.org/index.php.

-
- Classification as a language (is it a language or a dialect?);
 - Additional bibliographic sources, especially new learning materials;
 - Personal anecdotes about contacts with the speakers;
 - Ethno-political policy statements from representatives of minorities;
 - General questions about UNESCO criteria.

The Foundation for Endangered Languages has appointed a set of regional consultants who are familiar with the language situation in the region which is considered in a specific comment. They form the editorial board which on the basis of these comments updates and improves the Atlas' content. The problems and controversies related to this procedure are described by Moseley (2012).

In March 2011, 116 language entries had been updated in the Interactive Atlas thanks to users' feedback. At present (August 2015) the editorial board is considering many new suggestions for improvement of the Atlas and in recent publications several possibilities for this have been mentioned, such as those by Kornai (2015) and Soria (2015), stressing the importance of "Digital Language Diversity", the response of the languages to new media in the digital domain (factor 5).

8. Conclusions

During the UNESCO International Expert Meeting on Improving Access to Multilingual Cyberspace, which was held in Paris, 28–29 October 2014, discussions took place about the future of the Atlas, for which further improvements were suggested. One of the recommendations was to upscale UNESCO's Atlas of the World's Languages in Danger to a more general UNESCO World Atlas of Languages, which is not limited to endangered languages, but provides an overall view of linguistic diversity, multilingualism and language change in the world.

For the time being the work continues on the existing version of the UNESCO Atlas of the World's Languages in Danger, for which quite modest financial support is required. A new UNESCO Advisory Group should develop a comprehensible and sustainable set of new indicators, based on the existing proposals and advantages of ICTs. Depending on possible future financial resources, these should be implemented and added to the Atlas in combination with the results of initiatives elsewhere. This could lead to a UNESCO World Atlas of Language as a new monitoring tool, which not only determines the vitality and possible state of endangerment of the world's languages, but also measures linguistic diversity and multilingualism in specific regions of the world.

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Mansi Language Use in the Digital Sphere: A Work-in-Progress Report from the FinUgRevita Project

As I have argued elsewhere (cf. Fenyvesi 2014, 2015a, 2015b), language use mediated by electronic/digital devices (such as in emailing, using the web, listservs, newsgroups, texting, voice-over-IP, social media as well as instant messaging and blogging) – or “digital language use” – has become a crucially important domain of language use in the 21st century and has contributed to the fact that today we read and write more than before (Baron 2008). This has made it an essential aspect to study in both monolingual and bilingual contexts. In addition, digital language use is also important to support in the case of endangered languages, since, as we know from Kornai’s convincing argumentation (Kornai 2013), digital presence is crucial for such languages if they are to survive. Simply put, since the typically bilingual speakers of endangered languages will use digital technology available to them just like everyone else, the crucial issue for them is whether they can do so in their endangered language, thereby strengthening its use in modern domains, or they will have to resort to use their “other” language, the typically dominant majority language, and thereby give up one more domain of the endangered language use. To illustrate with a positive example, bilingual speakers’ use of the indigenous Sakha language in the Sakha Republic, Russia, in online storytelling, meme-creation, and new online genres significantly contributes to that language’s modernization, vitality, and, all in all, maintenance and survival (cf. Basharina 2013).

In line with this, the aim of the FinUgRevita project (full name: “Computational tools for the revitalization of endangered Finno-Ugric minority languages (FinUgRevita)”) is to provide a range of open-source and free computational tools to speakers of endangered indigenous Finno-Ugric languages in Russia and assist them in using their indigenous languages in the digital sphere. (The project is being carried out by teams of computational linguists, Finno-Ugrists, and sociolinguists at the University of Helsinki, Finland, and the University of Szeged, Hungary, and is funded by the Academy of Finland, AKA, and the Hungarian National Research Fund, OTKA, for the period between September 2013 and August 2017.)

Of the Finno-Ugric languages, only three, Hungarian, Finnish and Estonian have their own nation states, while Russia is the host state of almost all of

the endangered indigenous Finno-Ugric languages – exceptions are most of the Sámi and Karelian (speakers of the former are more numerous in Norway, Sweden and Finland, those of the latter in Finland), as well as Livonian and Võro (spoken in Estonia).

Together with those of many other indigenous languages, speakers of Finno-Ugric languages, living in the Russian north, in the vicinity of the Urals, and in western Siberia, have been under Russian domination since the 16th and 17th centuries, when the expansion of Russians eastward in pursuit of furs (a valuable commodity at the time) began. Despite the increasing Russian colonization, these peoples were more or less able to preserve their traditional lifestyles of hunting, fishing and reindeer herding until Soviet times. After generally positive changes instituted in the first decade of Soviet rule such as the creation of autonomous districts where their rights were supposed to be preserved, the promotion and support of literacy in the indigenous languages (through the establishment of orthographies, literary norms, and publishing), Stalinist rule brought forceful assimilation and russification as well as the persecution of minority intellectuals. Sociolinguistically speaking, this has driven the Finno-Ugric indigenous languages down the road leading to language shift, with no language policy in the Soviet Union or in post-1991 Russia aimed to change this. (For more on the sociolinguistic background, see Bakró-Nagy forthcoming.) The decline in the numbers of speakers of these languages is clearly visible in the figures from just the last two of the Russian censuses, 2002 and 2010, summarized in Table 1 below.

Table 1. Ethnic population and speakers of Finno-Ugric languages in Russia in 2002 and 2010 censuses (Russian census 2010)

language	2002		2010	
	ethnicity	speakers, %	ethnicity	speakers, %
Mordvin	977,381	58.1	744,237	52.8
Mari	678,932	68.4	547,045	66.7
Udmurt	640,028	67.0	552,299	58.9
Komi	434,248	ca. 67.0	228,235	68.4
Komi-Permiac	125,235	ca. 75.0	94,456	67.0
Karelian	93,344	ca. 50.0	60,815	42.5
Khanty	28,678	ca. 47.0	30,943	30.9
Mansi	11,432	ca. 23.0	12,269	7.65
Veps	8,240	ca. 69.0	5,936	60.8
Saami	1,991	39.5	1,991	17.7
Inkeri	327	ca. 92.0	266	46.2
Votic	73	no data	64	106.3

The FinUgRevita project has so far targeted two Finno-Ugric languages spoken in Russia, Udmurt and Mansi, the former being one of the “bigger” such languages, the latter one of the smallest ones. The venue of the conference where this report was presented being Khanty-Mansiysk in the Khanty-Mansi Autonomous Okrug, this report concentrates primarily on the project’s work on Mansi.

Mansi is a severely endangered indigenous minority language (according to the classification of UNESCO’s *Atlas of the world’s languages in danger*), with about 0.8% of the Okrug’s population, or 12 thousand people being ethnically Mansi, and less than a thousand of them being speakers of the language, according to the census results. The language has no official status even in the Okrug, and no economic significance whatsoever. It is used almost exclusively in the family domain and among friends, primarily by rural rather than urban speakers. It is taught in ten schools in the Okrug, and has some presence in the media, culture, and on the Internet (Horváth 2010).

As far as the Mansi language is concerned, University of Szeged researchers participating in the FinUgRevita project are carrying out work along two main lines: completing data collection in a sociolinguistic survey of digital language use by Mansi speakers, and doing computational linguistic work on the language, building a Mansi morphological analyzer and a quadrilingual electronic dictionary (cf. Vincze et al. 2015).

The sociolinguistic survey we are carrying out is using an electronic questionnaire (powered by Google’s survey tool) aimed at mapping out speakers’ use of Mansi as well as Russian and possibly other languages (like English as a lingua franca) in the typical ways of digital language use, in addition to also asking for “the usual” information on language use in general in private and public domains as well as for speakers’ self-rating of their own competence in the languages they use in their lives. The questions used in the survey draw on the European Language Vitality Barometer (EuLaViBar) developed by the ELDIA project (Spiliopoulou Åkermark et al. 2013), which is a complex tool and toolkit developed and made available to researchers working on endangered minority languages (<http://www.eldia-project.org/index.php/eulavibar>). Questions 1–26 were used from the EuLaViBar regarding personal data, background information about language use, language competence, and language use. Its question 40 (with sub-questions a through m) concerning media consumption and active language use in the modern media were also used and expanded considerably with our own detailed questions on issues and aspects of digital language use not covered

in the EuLaViBar questionnaire, such as in texting, emailing, accessing official and personal websites, reading and writing blogs, comments, forum discussions, and social media entries, creating and sharing memes, comics, photos and videos, playing online games, doing online searches, and using tags and hashtags in social media.

By June 2015, a total of 18 speakers of Mansi filled out the questionnaire. Their use of the Mansi language in the digital sphere turned out to be focused most on using it in social media (by 13 speakers), primarily on VK.com (“Vkontakte”, the most popular social networking site in Russia) and on Facebook, in texting (11 speakers), emailing (7 speakers), reading and commenting on webpages (6 speakers), using software and playing online games (4 speakers each).

As part of the computational linguistic work in the project, FinUgRevita’s University of Szeged team has been building a quadrilingual (Mansi–Russian–Hungarian–English) dictionary of Mansi. At the basis of this are the Russian–Mansi and Mansi–Russian dictionaries published to date: Balandin and Vakhrusheva (1958), Munkácsi and Kálmán (1986), Rombandejeva and Kuzakova (1982), and Rombandejeva (2005), the lexical material of which is scanned in and entered into a database as well as augmented with Hungarian and English equivalents and with grammatical information regarding the Mansi lexical items by the researchers of the project. Adding the Hungarian and English language data is done by multilingual researchers using published dictionaries as well as their own highly advanced language proficiency in Russian, English and Hungarian. The Mansi morphological analyzer will be using this electronic dictionary as its base, as well as grammatical information based on Rombandejeva (1973) and Riese (2001).

As a sideline, we are also building a Mansi corpus using the published language material of the Mansi language newspaper *Luima Seripos* (published since 1989), whose biweekly issues report on the traditional Mansi lifestyle, folklore as well as aspects of modern urban Mansi life and thus provide a combination of traditional and modern vocabulary.

As a next step, the project team will be developing learning and authoring tools for Mansi, as well as language games.

It is our hope that these computational linguistic tools will contribute, at least in small ways, towards the strengthening of the status of the Mansi language in the digital sphere and its use in the modern world.

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SECTION 4. NATIONAL EXPERIENCE AND VISION

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Advancing Kyrgyzstan's National Language through IT, Government Policy Innovations

Central Asia has been a meeting point of cultures and civilisations ever since the historic trade route known as the Silk Road got extended here from China. And so, features such as neighbourliness, tolerance, and a striving for cross-cultural harmony have become deeply ingrained in local populations' mentality.

Thanks to its geographic position, Kyrgyzstan stands out among other Silk Road countries. The Kyrgyz – an ethnicity indigenous to this particular area and one of the oldest Turkic-speaking in Central Asia at large – account for 73% of this country's population, with the remaining 27% split among 80 different ethnic groups, varying in size, language, religion, culture, anthropological makeup, and traditions. The non-Kyrgyz communities include Russians, Uzbeks, Ukrainians, Belarusians, Azeris, Uighurs, Chinese, Greeks, Czechs, Germans, Iranians, Kurds, and Arabs, to give just a few examples.

These and other ethnic groups living in Kyrgyzstan all belong to one nation, and they all share one major goal, that of building a sovereign democracy and a technologically advanced economy. In a multi-ethnic country such as ours, it is achievable only provided that we have a unifying ideology, strong cross-cultural friendships, and a civic society mindful of the interests of every constituent community.

One of the rights guaranteed to the Republic of Kyrgyzstan's citizens by various state documents is that to preserve their cultural identity, including in areas related to language use, education, heritage, and traditions. The Association of Kyrgyzstan's Ethnic Communities works pro-actively to make sure this right is, indeed, exercised, and to the fullest degree possible: it helps in setting up community centres and in organising ethnic language courses and festivals that feature traditional cultures. In southern areas, with their predominantly Uzbek population, there are schools providing study programmes in the Uzbek language.

Kyrgyzstan is the only post-Soviet state to promote Russian as the official lingua franca of interethnic communication, along with the national – Kyrgyz – language. Its language policy seeks to achieve a balance between the two.

Among the state's key priorities is creating conditions where every citizen could develop proficiency in the national language. With this aim in view, Kyrgyz language centres have been set up across the country. For non-Kyrgyz ethnicities, classes here are compulsory, but free.

State-run broadcasters and print media contribute their bit by promoting the Kyrgyz language through educational shows and columns, respectively.

The Kyrgyz language's status has not been the same throughout. In the Soviet era, it got its functional scope broadened considerably and its role in society, consolidated. On the other hand, though, the processes of linguistic unification and assimilation weakened its positions in political life.

In early post-Soviet years, Kyrgyz was given national language status, and it has since had an increasingly wide range of socio-political functions to perform.

A September 23, 1989 language law had made Kyrgyz the republican language in Kyrgyzstan (then still a Soviet member state). This new status raised the prestige of this language, along with the Kyrgyz people's self-awareness. Protection and promotion of Kyrgyz were then declared a priority with the republic's government, and it pledged appropriate financial support for language programmes thus oriented.

Strategies and guidelines for promoting Kyrgyz as the national language were set forth one decade later, in a National Language Advancement Concept, and a presidential commission was then established to administer its further development and implementation.

In May 2000, Russian received official language status in Kyrgyzstan. That move was consolidated in the May 29, 2000 Official Language Law and, one year afterwards, in the republican Constitution as well.

So as to enable Kyrgyz to function in its new capacity, a Programme for the Advancement of the National Language in Kyrgyzstan was adopted in 2001, for the period through 2010, with special emphasis laid on measures to tap into the language's inner potential and to ensure its broad use in every area of public activity.

The measures taken under the programme have made it possible for Kyrgyz to gain dominant positions across the republic, becoming the principal language in rural communities and at secondary schools based in the provinces. Its role in public administration at the grassroots level has also resurged as a result –

municipal councils and other local-government institutions all do their paperwork in Kyrgyz these days.

As for the media, the number of Kyrgyz-language periodicals has grown dramatically in recent years – in response to an increase in demand. In the provinces, more people now tend to give preference to Kyrgyz-language television channels, which, nonetheless, are still few and far between.

The above is not relevant to the country's northern areas, though, with their numerous ethnic Russian populations. Most of the local Russians do not speak Kyrgyz, for reasons ranging from a lack of strategic planning for the enforcement of the National Language Law to a lack of qualified instructors and of academically developed and tested teaching techniques to a lack of textbooks and tutorials.

Admittedly, Kyrgyzstan's Russian and other ethnic minorities have so far been provided with little or no support in Kyrgyz language learning. And until this problem is addressed, Kyrgyz will continue to have difficulty functioning as a full-fledged national language.

Kyrgyzstan's Programme for Advancing the National Language and Streamlining Language Policies, in 2014 through 2020, aims to ensure full-fledged use of the national language in all areas of public activity, including as an integrative tool, with all of the country's ethnic minority languages preserved, and their studying and promotion facilitated.

In a survey conducted in 2012 in the capital, Bishkek, Kyrgyz public-sector workers were asked about the role of the Kyrgyz language in their lives; 78% said it enabled them to communicate with their loved ones and to consider themselves full-fledged community members and patriotic citizens. Some argued it was a must-know for everyone living in Kyrgyzstan and that any resident's refusal to learn it should be regarded as a sign of disrespect towards the Kyrgyz people.

Fifteen percent of those surveyed admitted they did not think they had a good enough command of Kyrgyz, despite its being their mother tongue, and that they used this language mostly for communication with their extended families (more often than not, in its vernacular form).

Seven percent said Kyrgyz was their ancestral language while their native language was Russian. This group pointed out that, in their view, Kyrgyz had no prospects of extending its reachout anywhere beyond the country, so sticking to it just meant artificially limiting one's access to information – something they claimed was bound to lead to low awareness and general regression in society.

Most interviewees of Kyrgyz origin claimed to have native proficiency in all major language skills, including comprehension (95%, or 270 respondents), speech fluency (85%, or 243); reading (91%, or 260), and writing (89%, or 257).

Among the non-Kyrgyz respondents, a majority (56%) said they believed that, being the national language, Kyrgyz was a must-know for everyone living in Kyrgyzstan.

Eighteen percent remarked Kyrgyz language proficiency was beneficial in terms of career opportunities; 9% said the language was necessary for communicating with the natives, and 17% admitted they were reluctant to learn it as they did not see how they could possibly benefit.

However, a majority appear fluent in both Kyrgyz and Russian (70%); the remaining 30% seem to know Russian and some foreign language instead (English and German are the two most prevalent). And as many as 96% claim to have Russian language proficiency in all major skills (speaking fluency, comprehension, reading, and writing).

The question as to whether Kyrgyz should replace Russian as the language of public bureaucracy divided the respondents almost evenly into two camps: 49% said there was no need while 47% spoke in favour of partial transfer to Kyrgyz.

In the capital, Bishkek, public administration bodies still tend to do their paperwork in two languages (Russian and Kyrgyz) for the most part.

Here are some of the conclusions that could be drawn from this survey. Russian remains the main language of public administration in Kyrgyzstan's capital, Bishkek. Nearly all the respondents, except for 9 (4%), can speak and comprehend Russian and have no problem writing and reading in the language. In communications with the public, Kyrgyz and Russian are used more or less in equal measure.

It was found out in the course of the survey that for a full switchover to Kyrgyz in public administration, there weren't enough filled-in sample forms available in that language, nor was there a sufficient document base. These and other circumstances still keep Kyrgyz from being used as a full-fledged public administration language. On the upside, though, public-sector employees in Kyrgyzstan are encouraged to master formal Kyrgyz for official communication.

In the multi-ethnic Kyrgyzstan, the choice of one official language in lieu of the other should, perhaps, be made based on the context, without suppressing the functional potentialities of either. There is no point, for example, in using Russian in areas with a predominantly Kyrgyz population. Whereas at firms,

companies and government agencies with multi-ethnic staffs, as well as at certain educational institutions (especially schools where courses are taught in Russian), giving preference to this language in formal communications does seem fully appropriate.

It looks like Kyrgyzstan is now facing a language crisis, with Kyrgyz still unable to become a full-fledged national language and Russian close to having its potential as an official language exhausted already. The Kyrgyz language's current state stems from its as-yet-unshaped academic potential while Russian is gradually losing its positions in traditionally Kyrgyz-language regions of the country.

For Kyrgyz to be able to serve as the public administration language, Kyrgyzstan will have to get enabling legislation first, along with an appropriate database and computer software, qualified personnel, and other essential managerial components.

Culturally, Kyrgyzstan's population remains very much Russian-oriented. At official ceremonies and international meetings, the country's President, Prime Minister and other top-ranking government officials still tend to deliver their speeches in Russian. But they do so not because they understate or do not recognise the importance of their native language. The message behind is that of ethnic tolerance – they thereby seek to emphasise that in Kyrgyzstan, Russian is the language of interethnic communication, peace and social harmony.

Following Kyrgyzstan's entry to the Eurasian Economic Union, the Russian language also became a gateway through which our Central Asian nation could integrate with global economic processes. And then again, Russian is a language indispensable for the development of younger generations these days – given the current situation in Kyrgyzstan's industries, sciences, and culture and the arts.

So, clearly, there is an objective need in Kyrgyzstan for the Russian language, and it will likely remain prominent in this country's linguistic landscape for years to come. Among the foreign languages currently in use, the most widespread are English, Turkish, Chinese, and Persian, to give just a few examples.

Kyrgyz language and the Internet: an analysis of the current situation

Kyrgyzstan is a country with a high level of access to Internet services. Yet, Web resources in the national, Kyrgyz language still account for a mere 5%, despite a majority of the population being Kyrgyz speakers. This creates an information gap, with the population missing out on important timely data and the national language kept from further developing and spreading as fast as it

should. Today, it is hard to imagine an activity that could be pursued without the Internet, whether it be in business, education, or in entertainment.

According to statistics cited by Kyrgyzstan's State Communications Agency, current Internet connectedness in the country is estimated at 43.7%. Most points of access are located in the capital, Bishkek (72%). As of the beginning of 2015, the number of Internet users nationwide totalled 4.2 million.

In the provinces, mobile wireless broadband is the most prevalent type of Internet technology now. Out there, access to the Internet provides opportunities for social and economic innovations that would have been unimaginable until very recently.

Mobile phone coverage, meanwhile, is currently at 90% in Kyrgyzstan, and the total number of network subscribers has by now exceeded 7 million.

Experts say that information and communications technology, or ICT, is nowadays the main indicator of how well a specific country is developed and whether it has a high potential to innovate. In the modern-day world, this also is the key to economic growth and the best way to gain a competitive edge on global markets.

Various institutions – such as government agencies, firms and companies, and media organisations – contribute to the advancement of the ICT sector in the republic.

The first successful attempts at integrating the Internet into the government's everyday operations were made in the year 2000. Since then, most ministries and other government institutions have had bilingual Web sites built for them, and their performance has improved considerably as the result.

As for the media, they were among the first to see and appreciate the Internet's assets and the wealth of possibilities it opens up, notably on the political scene. Major periodicals quickly went digit, with online versions released alongside the print edition. And national radio and television networks began to make their shows and news roundups available in webcasts. Many of the media organisations have now come to realise that cyberspace can provide them with a lot more opportunities than they can ever get offline.

Firms and companies, meanwhile, have created a lot of new services on the Internet, with electronic commerce being among the most important. Corporate investment in the Internet has exceeded multifold that of the state, enabling the business community to gain leading positions in cyberspace's political arena.

Academic institutions, by contrast, still do not use the potentialities of Kyrgyzstan's emerging ICT sector efficiently enough. Yet, they have made some efforts to integrate high technology into their operations by launching various open-source educational resources, programmes for distance learning, e-libraries, and online repositories.

Kyrgyzstan's non-profit organisations (NPOs) and other civic society groups, which now run into the hundreds, have been extensively using the Internet in their activities all along.

Political parties, especially larger ones, do use Internet technology in their election campaigns, but they have not yet become fully aware, it seems, of just how powerful a tool the World-Wide Web can be, organisational and financial alike.

Individual projects, and projects in culture and the arts, as well as online communities occupy a prominent place in the life of Kyrgyzstan these days. Solo projects can grow into online partnerships in no time – all it takes is to gain enough social media clout.

Two of the most striking distinctive features of Kyrgyzstan's Internet are a low level of government regulation and young people constituting the bulk of the user community. And it is important to note that high user numbers will be a key factor in advancing the Internet and various innovative ICTs in the republic.

The saturation of Bishkek's Internet services market has resulted in fewer users signing up – something that will inevitably lead to a slowdown in the advancement of information and communications technology in Kyrgyzstan. Which is why our primary objective is to enlarge the user base by encouraging more people to go online in the provinces.

The government and the business community have been actively working to achieve that for more than a decade now. Yet, the regional user base remains slow in expanding – owing largely to poor infrastructure in Kyrgyzstan's rural areas and to a lack of Kyrgyz-language content online, with Kyrgyz being used mainly in the country's rural communities (and not used enough in government agencies).

The awareness of this has prompted the government to step up its efforts to promote the Kyrgyz language on the Internet. One of the recent moves in that direction has been the adoption, in keeping with an April 10, 2013 presidential decree, of a Concept for Consolidating the Nation's Unity and Interethnic Relations in the Republic of Kyrgyzstan. As part of measures to translate this

concept into reality, the presidential Commission for the National Language is now working to have Kyrgyz join Google Translate.

The idea to create an online Kyrgyz translator on the basis of Google Translate seems especially appropriate ahead of a prospective switchover to this language of Kyrgyzstan's public administration sector.

Kyrgyzstan's government officials, businesspeople, and students stand to benefit from this new service as well as members of the general public. First of all, it could provide a foundation for studying Kyrgyz as the national language. Secondly, it may prove to be a convenient tool for those who do not know the language, but have to use it in their business correspondence. And thirdly, it is likely to lead to a growth in the number of Internet users in the rural Kyrgyz-speaking communities.

Google Translate is a free, open-source tool, highly popular with Internet users worldwide. Its operations are based on statistical machine translation (SMT). So, for the Kyrgyz language to be taken on board, more than 1,000,000 Kyrgyz words and their English equivalents will have to be submitted to Google, Inc., in sentence-aligned parallel corpora.

Assembling a bilingual corpus is a rather painstaking task, and to facilitate it, a special Web site has now been developed. Here, our Kyrgyz-English text data will be typed in sentence by sentence to be subsequently formatted as aligned parallel corpora and sent off to Google, Inc., once they get large enough for SMT.

If this task is followed through upon successfully, here are some of the steps to be taken next:

1. Building a community for supporting the Kyrgyz language, to bring together pro-active Internet users as well as government agencies, businesses, and all those who care.
2. Translating mainstream computer software, primarily the OS Windows and Android, and the Microsoft Office and Open Office word processors; optionally, launching – on the basis of a translation management platform – a crowdsourcing project to obtain user-generated translations for educational purposes (including for children's education), as part of the free and open-source software (FOSS) movement.
3. Developing a local standard for Kyrgyz keyboard layout.

Also, work is already underway to get up and running a Kyrgyz-language edition of the free online encyclopaedia Wikipedia. At the moment, we are learning to use special computer-aided translation software, which would help us process

thousands of articles written in English, Russian, Turkish and Kazakh. Content Translation (or the Wikipedia's Computer-Assisted Translation (CAT) tool) is now being tested for the Kyrgyz-language edition. And there are ongoing efforts to expand the Kyrgyz Wikipedia by adding new articles, with more than 5,000 already uploaded.

The development of the Kyrgyz Wikipedia is quite an ambitious and challenging task. The ad hoc group formed to carry it out is comprised of ten universities, about thirty university chancellors and professors, and 300 university students from across the republic. Every institution involved in the project will be required to upload at least 500 Wikipedia articles. To make that happen, Wikipedia contributor clubs have been set up at the universities, and their members – would-be Wikipedians – are now being introduced to the Wikipedia's contributing rules through a series of workshops.

The Kyrgyz Wikipedia is a big systemic project, and community development will be a major factor in getting it accomplished. The emerging user community has a major role to play in ensuring this new edition is vibrant and vigorous enough to promote the Kyrgyz Internet and education in the language using online tools. Both the contributors and users of the Kyrgyz-language edition stand to benefit by gaining new expertise. And the general public will – for the first time ever – get the chance to access a knowledge base as vast.

Speaking of electronic lexicography resources, a monolingual Kyrgyz-language dictionary has been digitised, and is about to go online. It contains some 35,500 entries with definitions. A Russian-Kyrgyz dictionary of mathematics terminology, compiled by Rakim Usubakunov, and a dialectal dictionary, by Zheenbai Mukambayev, are next to go digit. A dictionary of idioms and an English-Russian-Kyrgyz dictionary will follow.

E-dictionaries for studying the Kyrgyz language are already available at tili.kg and bizdin.kg.

There are sites that provide online Kyrgyz-Russian translation. But these are only good for translating separate words. No service is available as yet for the translation from Kyrgyz of phrases, idioms, and texts, including official documents.

The lexicon for our future online translator is being built around digitised conventional dictionaries and supplemented with fresh terminological and technological data. Experienced linguists will be working to ensure that the translations are adequate and to update the glossary by adding new entries.

Concurrently, a number of Kyrgyz-language books are now being digitised for subsequent upload. These include a complete edition of the epic *Manas*, in

Sayakbai Karalayev's version, an eight-volume edition of *Manas*, in Zhusup Mamai's version, and reference books on the Kyrgyz grammar and spelling rules.

Work has also got underway to build a Web links site for Kyrgyz language learners. At the moment, a concept for such a site is being worked out; appropriate content (text, audio, video), compiled; and technical details, discussed at consultations with computer programmers and Web designers.

The site tili.kg was built a few years ago; it is comprised of four main sections: a dictionary, an online study course, a chat for online discussions, and useful links. A variety of aids that can help in learning the language have been put together here, including grammar books, folktales, and lists of proverbs. Authors of original teaching methodology have agreed to make their tutorials available at tili.kg. The on-site dictionary includes as many as 85,000 entries, but users are welcome to contribute new ones.

We now have the lucky chance of studying languages in a more exciting way – not just through books, but with the help of the Internet. For our convenience, application programming interfaces (APIs) have been developed for Android, iPhone, iPod, and Apple. Users can add a picture or a comment.

All of the mentioned projects are aimed, generally, at encouraging Kyrgyzstan's Russian-language Internet users to study Kyrgyz. With that aim in view, we plan to build a new Web site, Uchim.kg, for those interested in learning some Kyrgyz. Various techniques will be available at this site, including books, dictionaries and subtitled films. Since all the projects described here rely on user-generated content, their success, efficiency and sustainability will depend on how many people check them out. It is therefore crucial that at the initial stage, close attention should be paid to promotional marketing of the site and that we, as Internet users, should be emotionally committed to advancing the national language.

There has been a noticeable increase lately, in the amount of online content and ads in the Kyrgyz language.

Recently, the first ever Kyrgyz-language social medium, kyrgyz.kg, got started. This is a Facebook-based platform for socialising and making friends, a links site providing various multimedia content in Kyrgyz, including music, books, and video, complete with a fully functioning file-sharing tool, a Kyrgyz-language online radio, and webcasts of Kyrgyz television shows.

For the Kyrgyz-language version of Facebook to be launched, more than 3,000 words had to be translated directly from English. The number of registered users has reached 5,000 by now.

The site is currently suspended for technical improvements – to meet the demands of users accustomed to English-language Facebook’s user interface.

So, as we can see, the development of Kyrgyz-language content is a key prerequisite for attracting new Internet users in Kyrgyzstan and for building a vast user base here.

Summing up, the Internet is a unique tool that enables us to keep our native languages alive while also facilitating the study of foreign languages and the promotion of multilingualism. It can help us cope with the challenge of passing a community’s mother tongue from one generation to the next. And in our age of rapid technology advance, it is highly unlikely that the next generation of Kyrgyzstan’s inhabitants will be able to do without the Internet.

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Multiculturalism in Azerbaijan

In this report, I would like to provide a brief overview of multiculturalism and its evolution in my native Azerbaijan.

According to President Ilham Aliyev, multiculturalism is the nation's "modus Vivendi". "The term "multiculturalism" may be quite new, but (de facto) the country has been home to culturally diverse communities for centuries now," he says, pointing to manifestations of cross-cultural solidarity and friendship as the most eloquent testimony.

I risk being misunderstood, perhaps, but I dare confess that as a citizen, I feel privileged to live in a country where the head of state espouses humanitarian values and is committed to the principles of cross-cultural dialogue and inclusive citizenship.

The adverse effects of double standard policy is something Azerbaijan knows firsthand; with one-fifth of its territory currently under occupation, it has about a million re-settlers to accommodate and provide for. Yet, the nation invests a lot of energy to ensure steady growth for its domestic economy while also going to great lengths to promote humanitarian values, both at home and globally. It would be fair to describe that kind of policy as peaceful and constructive.

"There is no alternative to multiculturalism in the 21st century" – this could be a key political slogan for the world's leading international organisations. Many of them are facing a crisis of public confidence in their relevance to the present moment, so integration initiatives are something they may badly need.

UN leaders believe that in the ongoing struggle against extremism and radicalism, intercultural and interfaith dialogue should serve as a major weapon. In Azerbaijan we have decided to switch from words over to actions. At President Aliyev's initiative, the nation has recently launched what is known as the Baku Process. This past May the Azerbaijani capital, Baku, hosted the 3rd World Forum on Intercultural Dialogue, under the auspices of the UN Alliance of Civilizations (UNAOC).

Azerbaijan is a tolerant nation, one that throughout its history has been home to a whole variety of ethnic groups. This tradition assumed an entirely new form

in the early post-Soviet era, after the Azerbaijani regained their independence. And, admittedly, high-level representation is what all of the country's religious denominations and faiths enjoy these days. It is part of the national ethos here to have citizens of various cultural backgrounds living and working together for their common benefit.

Conceived as an ongoing project, the Baku Process allows to display tactfulness, dignity and respect for expressions in everyday life of any culture (including new, as yet unfamiliar), with a view to ensuring better mutual understanding and co-existence. We believe that most of today's civilizational problems – phobias, controversies, misinterpretations – arise from a lack of awareness of culture-specific traditions and forms of expression.

A number of Western nations, including the United Kingdom, France and Germany, are now formally renouncing the policy of multiculturalism, after having pursued it for years. In his speech at the Munich Security Conference on 5 February, 2011, British Prime Minister David Cameron attributed this to the unwillingness to integrate immigrants into the core community. This may be just a political pretext, though.

In Azerbaijan, by contrast, multiculturalism has become a major feature of the country's political profile. That was one of the main aspirations of former President Heydar Aliyev, the architect of national multiculturalism. He played a key role in enhancing multiculturalism in modern-day Azerbaijan. Now his son and successor, Ilham, is successfully carrying on with this cause.

A Religion and Interethnic Multiculturalism Adviser Office was established in Azerbaijan on 28 February, 2014; on 15 May that year, President Aliyev Jr. signed a decree on the foundation in Baku of an International Centre for Multiculturalism.

Active efforts are now being made in Azerbaijan to create necessary sociopolitical conditions for further development and consolidation of multiculturalism traditions, for free co-existence of members of various ethnic communities, religions and cultures, and for the exercise by ethnic minorities of their guaranteed rights and freedoms. In this area, the nation's leaders closely cooperate with various international alliances, including the UN, the Organisation for Security and Cooperation in Europe (OSCE), the Organisation of Islamic Cooperation (OIC), and the European Union.

The importance of preserving ethnic minorities' traditions and languages in the context of globalization and multiculturalism was prominent on the agenda of an international symposium, "Multiculturalism and Azerbaijan's Experience in Ethnocultural Interaction", that took place in Azerbaijan's Quba in July 2013.

It was held in association with the Azerbaijani National Academy of Sciences' Institute of Archaeology and Ethnography, the Institute of Philosophy, Sociology and Law, the Russian Academy of Sciences' Philosophy Society, and Israel's Ariel University.

That was the first time representatives of ethnic minorities and members of the academia of the Former Soviet Union had been brought together to discuss some topical issues of mutual concern. In the audience, one could see Bulgarians and Azeris, Tatars and Jews, Russians and Lezghins, Poles and Udis, Germans, Kurds, Ukrainians, and Talysh people. Renowned scholars and authors from among the participants highlighted the importance of further dialogue between cultures and civilizations amid growing ethnic and religious tensions in Western Europe and elsewhere.

A "land of lights", as it was known in ancient times, Azerbaijan has a rich and complicated history. It has recently launched its first satellite into orbit, joining the ranks of nations with a space industry of their own.

Socially, this is a multi-ethnic country, where 22 ethnic groups, apart from the Azeris, coexist in harmony. The Constitution guarantees to each equal rights and opportunities in using its language and maintaining its traditions.

Christianity and Judaism are the two religions most widely spread across modern-day Azerbaijan, along with Islam. The nation strives to maintain a balance of interests of all faiths and ethnicities; each community is represented by ethnocultural organisations of its own, and it maintains traditional culture, specifically, through folk music performances and language education. This goes to show that the country has managed to find a workable formula for harmony between its many cultural, religious and ethnic communities.

A new five-year programme was launched in 2012 to preserve the historical, cultural and religious heritage of Azerbaijan's Jewry. One of its major achievements is a synagogue construction project started in the Azerbaijani capital, Baku, by presidential decree and funded with allocations from the government. The highly functional three-story building now serves as a house of worship for the so-called Highland Jews, who form the bulk of the country's Jewish community. For centuries, Jews have been living in close contact with other ethnic groups of Azerbaijan (one specific example is their 300-year-long cohabitation with the Muslim majority in the Quba area), yet have managed to preserve their language, religion, customs, and culture.

Multiculturalism is also a tool for alleviating the negative impact of globalization. The experience of the U.S., Canada, France, Germany and Azerbaijan gives us

a good idea of the challenges posed by globalization and of the positive effect that can be achieved if those challenges are tackled through multiculturalism.

Canada is the world's first country to have assumed multiculturalism as an official policy. That happened in 1971, and ample expertise accumulated since then could help politicians, as well as scholars, in working out ways to achieve peace and harmony across cultures.

Multiculturalism is based on tolerance – religious, ethnic, racial, etc. But the Azerbaijanis do not need to tolerate one another, actually – with them, multiculturalism is something innate; there is a common awareness that they have one country to share and that they make its history all together. However banal it may sound, tolerance in its religious, ethnic, racial and other aspects is, indeed, an intrinsic ingredient in the notion “Azerbaijani national”.

Five large-scale projects have been launched in Azerbaijan lately to study the domestic model of multiculturalism and share its achievements with the outside world.

One of the current projects seeks to add multiculturalism to the curriculum of seven universities, including the Slavic University of Baku, the Azerbaijani State University of Economics, the Baku School of Petroleum, and Lankaran State University. With multiculturalism being a relatively new area of study, no textbooks authored by local scholars and experts are as yet available for guiding students through any related course. So the trailblazers who have set down to forming a national academic base on multiculturalism in Azerbaijan so far rely almost entirely on foreign sources. University programmes that are being developed as part of this project will teach multiculturalism starting with its fundamentals, so that students could become better equipped to subsequently promote the advantages and reveal the distinctive features of the Azerbaijani multiculturalism model across the world.

Another project, run by the Baku International Centre for Multiculturalism, gets Azerbaijani academics to tour the world, lecturing on multiculturalism at various universities. Importantly, cooperation proposals come in from abroad – it is large international faculties that approach Azerbaijani counterparts with a request to share their multiculturalism-related expertise. Professors from Azerbaijan now lecture at Italy's Roma Sapienza university, the Urals Federal University's Yekaterinburg branch, the St Clement University of Sofia, Tbilisi University, the Charles University of Prague, and the Lithuanian Teacher Training College.

Training courses arranged under a third project are intended mainly for target audiences in the provinces. The target student groups here include individuals

required to display tolerance as part of their professional etiquette (police personnel, municipality officials, etc.). For them, the Centre arranges lecture courses ending with a compulsory exam.

An equally interesting and important fourth project is about sending internationally acclaimed Azerbaijanis on foreign assignments to tell the world about achievements in multiculturalism in their country. One of the latest such trips has been to Georgia, by Azerbaijani visual artist Farkhad Khalilov.

Similar work, albeit in a somewhat different vein, is being done by the Centre within the framework of a fifth project, which involves lecture courses for target audiences. One course that is currently being worked upon is intended for a municipality in Israel.

Institutions of higher education are beginning to make Azerbaijani multiculturalism part of their curricula. With this in mind, the Religion and Interethnic Multiculturalism Adviser Office has developed two study programmes: a Bachelor of Arts programme, “Introduction to Multiculturalism”, and a Master of Arts programme, “Azerbaijani Multiculturalism”. Both are designed for domestic as well as foreign universities.

Starting from next semester, the BA programme will be taught at several universities across Europe. A number of reputed schools in Russia, Lithuania, Italy, Georgia, Switzerland, Turkey and Bulgaria have already expressed their interest. The Baku International Centre for Multiculturalism provides a preparatory training course for lecturers invited to teach on the programme.

On the other hand, there remains a need for introducing this interdisciplinary subject to Azerbaijani students. As an area of study, multiculturalism combines history, culture, psychology, worldview, language, literature, political science, systems of government, and universal human values.

The Culture and Tourism Ministry, too, contributes to the advancement of multiculturalism in the country. In 2006 it launched a nationwide multicultural festival, “Azerbaijan, My Homeland”. As part of the festival, held every other year, various ethnic minorities (Avars, Georgians, Tatars, Turks, Tats, Highland Jews, Lezghins) show off their customs, traditions and cultures at major concert venues. And work in this area is ongoing.

I am certain that Azerbaijan’s success in practising tolerance and multiculturalism will build up further, inspiring other nations to follow suit, both across the region and globally.

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Access and Multilingualism in the Cyberspace in Peru

For many years, UNESCO has recognised the contribution of information and communication technologies (ICTs) to the expansion of universal access to information and knowledge, which is vital for sustainable development and positive social transformation. To this end, online platforms can facilitate dialogue and mutual understanding, promote a culture of peace, and maintain sustainable development and a better quality of life. However, they can also have the opposite effect, enabling users to encourage hatred and intolerance through speech and behaviour, which could lead to violence. For this reason, the Information for All Programme (IFAP) has information ethics among its six key priorities. This involves taking on delicate issues, which are sometimes subject to cultural and political paradoxes and constraints, often difficult to manage. I have been fortunate to preside over the IFAP Working Group on Information Ethics, representing the Latin American and Caribbean Group (GRULAC), and I wish to share my experiences with you.

The role of ICTs in everyday life is not only growing, but also constantly evolving. Hence IFAP also focuses on the development (and the well-being of individuals) in our ecosystems. An interesting conference dealing with this subject was held earlier this year, from February 17–19. This event allowed me to understand that the ethics of information is truly a crosscutting issue, and free access to information (and also the education required to understand and integrate in the virtual world) is of vital importance. In this context, it is obvious that a democratic policy recognising the languages in multilingual countries must be set up, in order to enable real access that takes into account the linguistic minorities and the cultural diversity of Latin America.

As illustrated by the Secretariat of IFAP, for knowledge societies to be inclusive, a high priority must be given to meeting the needs of underprivileged groups. Improving and expanding access to the advantages of information for all is crucial for constructing equitable and democratic societies.

ICTs provide a wide range of new opportunities, ensuring fairer access to information that empowers disadvantaged groups, and also creating new ways to circulate ideas, exchange information, and promote intercultural debate and expression. In the new knowledge societies, the ability to access, create,

and exchange information (even if unreliable) is becoming more and more important for work, learning, and active citizenship. UNESCO has long since recognised the importance of increased information access and its vital role in stimulating development. The organisation also recognises the fact that additional efforts are required to successfully make use of new technologies as a catalyst and platform allowing societies to meet their needs and expectations.

Furthermore, while digital inclusion seems fundamental, the protection of personal information requires meticulous arbitration of sometimes widely differing interests. The majority of individuals expect security while being able to communicate with a maximum of other people, but also expect their privacy to be respected. And, after the *Wikileaks* and NSA scandals (through the revelations of William Snowden) and the on-going controversy in France surrounding laws concerning the flow of information, we know we live in a society where all our movements are monitored, be it via the Internet, credit cards, motorway tolls, or video surveillance, etc. The problem is to determine the boundaries between respecting an individual's privacy, and the freedom of expression and security. And this undoubtedly involves culture, since different cultural groups have very different views on privacy, for example. Thus, it has proved extremely difficult to create codes that are universally acceptable, as shown by the position of WSIS (especially Action Line C10).

The languages of Peru

According to Inès Pozzi-Escot's most recent work, presented in 1995 in the framework of *Rencontres panamazoniennes des langues indigènes*, it is extremely difficult to establish a map of indigenous languages, insofar as the boundaries between lectal varieties of the same language (i.e. dialects) and languages themselves are not easy to define. For example, linguists long considered *Sharanahua-Marinagua* a separate language, however recent studies and taxonomic research have shown that it is in fact a dialectal variant of the Pano language.

To sum up, the National Institute of Indigenous Peoples of the Andes, Amazonians, and Afro-Peruvians (INDEPA, reporting to the Ministry of Culture) has defined 76 ethnic groups, which belong to 16 ethno-linguistic families. A significant proportion of them correspond to the Amazonian languages from the Arawak linguistic branch, but also to Tupi-Guarani, Pano, Jibaro, and many others. The Andes languages, with the highest number of speakers, belong to the Quechua branch.

Returning to the subject of multilingualism in cyberspace, it is interesting to note that, by superimposing the linguistic map of Peru upon that of Internet

access in the country, we see that the Spanish speaking zone has a distinct advantage. While in the most developed and populated urban areas two out of three households have Internet access, this is the case for only five per cent of households in rural areas (not including the inaccessible zones of the Amazonian rainforest).

In Peru the Telecommunication Access Fund (FITEL) under the authority of the Ministry of Transport and Communications, is leading the effort to evolve from the first objective to achieve universal access to basic voice telecommunication services, to a most ambitious objective: achieving universal service goals to broadband Internet access. This policy of access to the Internet for all, especially the poorest and rural sectors, insists on a global approach, according to which Peru understands digital communications and universal access as respecting freedom of expression and human rights without interfering with privacy, in compliance with national politics of democratic society values.

As explained by the IFAP secretariat at UNESCO, in order for knowledge-based societies to be inclusive, priority must be given to meet the needs of disadvantaged groups, such as linguistic minorities. Improving and widening access to the advantages of an information-based society is a crucial factor in the construction of fairer and more democratic societies.

ICTs provide a large range of new opportunities, ensuring unbiased access to information, which allows disadvantaged groups to become more independent. However, there are wide technological gaps between not only regions but also States, which must be fought against. For many years, UNESCO has acknowledged the importance of increasing access to information as a vital tool in positive social transformation and development. The organisation is also aware that additional efforts are necessary, in order to successfully make use of new technologies and enable societies to meet their needs and ambitions.

To conclude, although this would have been an equally valid starting point, most Latin American societies are the product of history that has created stumbling blocks, hindering dialogue and acceptance of others. Our reality is pluralist, and is founded upon ideas which have evolved from the intermixing, homogenisation, assimilation, and finally integration of different cultures. How can we raise the subject of digital language with its codes and symbols, which do not exist in Latin American cultures? How can we reduce the technological differences between areas, while at the same time conserving the various cultures and traditions of our people, not forgetting that our *offline* identities (our values, history, experience, and culture) deeply influence how we connect *online*?

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Advancing Language Technology to Build Cross-Cultural Bridges

One of the key priorities humanity should focus on as it tries to build bridges across nations and to cope with global challenges is preserving and promoting linguistic diversity on Planet Earth.

Members of the research community who work to identify and address diversity-related problems are well aware that the cause could gain enormously from computers as a powerful IT tool, as well as from the Internet, a playing field that spans the entire globe.

The world we are living in now has, indeed, become a small world (in the positive sense), and so achievements by academics and experts in various fields (even those “on the fringe”) will reach a global audience almost instantaneously – if reported online. These days, even small ethnic groups can benefit from the World-Wide Web, not just by using it as a source of information, but also by contributing to open, (publicly) editable websites – such as the wikis (Wikipedia, Wiktionary, etc.) – in order to adapt content available there to the realities of their own language universe.

In Georgia, quite a lot has been done in recent years to have the national language extend its outreach in cyberspace. Steps in that direction have helped, among other things, to get Unicode support for one of the three early Georgian scripts, *mkhedrul*, thereby facilitating content sharing with professionals and laymen the world over. Already, we have got up and running Georgian-language editions of Wikipedia, Wiktionary (about 8,000 entries in Georgian), and several other wikis.

The Internet, as we know it today, enables the world’s various ethnic communities to also carry out other kinds of important projects aimed at preserving and supporting their respective languages.

In our report, we shall examine Georgia's experience in the field and present some of the related projects launched at the Georgian Engineering University, notably in its Computer Science and Database Management Systems Department. Building computerised speech recognition and synthesis systems is just one of the objectives pursued here. This is, indeed, a relevant objective, and one in line with our ultimate goal. However, among the ongoing projects there are some with truly innovative aims and strategies, which may prove interesting even to specialists completely unfamiliar with the Georgian language.

Let us begin with a brief aside, though. Humanity is, generally, quite enthusiastic about searching for its origins in monuments and artefacts of the past. Archaeologists try to piece man's heritage together as they study their excavated finds and publish the results of their expeditions. But these same functions could be performed by linguistics just as well, couldn't they? We believe that linguistics, notably computational linguistics, can be regarded as overland archaeology – in terms of function, at least.

A concise essay by the 10th-century monk John Zosima, entitled *Praise the Georgian Language*, corroborates this idea. Widely known and revered in Georgia as a sacred opus, it holds that the language, buried like the biblical character Lazarus of Bethany (ლაზარე, in Georgian), will one day be restored to life and that it will then convey a message essential to the entire world.

And indeed, the Georgian language has things to share with the world. It will be remembered that the Caucasus region is home to a wealth of languages and that the Georgian language, with its three original scripts, took shape several millennia ago (a modern-day Georgian speaker can read and comprehend early literary works, dating as far back as 1,500 years). Also, owing to its geographic position, Georgia has always been at the centre of momentous historical events, and this has inevitably influenced the language.

The 12th-century Georgian poet and thinker Shota Rustaveli knew already that the Earth is spherical and that it rotates around its own axis and revolves about the Sun; he was also aware of the then-known planets' positions in order of their distance from the Sun. Astronomers have proved Rustaveli covertly communicated that knowledge in his epic poem "The Knight in the Panther's Skin". And Sulikhan-Saba Orbeliani (1658–1725) – a Georgian enlightenment-oriented educationalist, lexicographer, author, translator, statesman and diplomat – compiled "The Georgian Dictionary", incorporating and giving definitions to terms that denote extreme distances.

Projects in speech recognition and synthesis

Projects in these two mainstream areas of computational linguistics are pursued at our university, too, including by a group of fellows and programmers led by Konstantin Pkhakadze, head of Georgia's Language Technology Centre. The centre's research staff have already advanced somewhat in applying information and computer technology to the needs of the Georgian language, but they still have a long way to go along that path.

Giving the floor to an amateur

As is known, new efficient solutions to complex problems are often found by non-professionals – amateurs, that is. This is precisely what happened to the now late Georgian actor Zurab Kapianidze. In a drawing meant for a primitive (and, hence, archaic) children's game known as Bikila, he saw a structure that would originally have been used for the letters of the earliest Georgian script, *asomtavruli*.

Prof. Gvinepadze's theory, predicated on Kapianidze's hypothesis, holds that the word "bikila" may have common origins with "beech" (compare the Georgian "bokvi", "tsipeli", "tsipra"; the Russian "buk") and that it reveals associative affinity with writing-related terms in Georgian and several other languages.

Here is a quote from Wikipedia:

In some Germanic languages, the word for 'beech' coincides with the word 'book': the German 'Buche', for example, means 'beech' while 'Buch' means 'book'; in Swedish, Danish and Norwegian, 'bok' means both 'beech' and 'book'. This is because the earliest Germanic and Scandinavian runes were written on wooden tablets, cut out from beech wood or beech bark.

Incidentally, as Kapianidze found out, Georgian ornaments, which presumably had other functions beyond that of decoration, fit perfectly flush into the Bikila structure. There exists an interesting etymological connection between the Georgian words meaning "mystery", "cryptography", "distorted discourse", and "ornamentation". Ample food for thought here, right?

Protolanguage and the Water theory

2 Peter 3:5:

But they deliberately forget that long ago by God's word the heavens came into being and the Earth was formed out of water and by water.

One of the most complicated linguistic problems is that of establishing etymologies, especially for words belonging to the primordial, unmotivated lexicon – repeated failures to trace their origins have made many scholars conclude that this category just does not pose a meaningful research agenda worth pursuing.

Gvinepadze, meanwhile, continued to explore and eventually arrived at the conclusion that “water” had been the root word for our protolanguage, an ancestral language common to all humanity. He then published a number of treatises setting forth what would become known as “water theory” on the origins of language, complete with an overview of the prerequisites and the research methods used.

Note: Interestingly enough, Gela Gvinepadze believes that his being an amateur, with no professional linguistic expertise (such as proficiency in five or six foreign languages), proved to be a major asset in his research. And indeed, he had to look elsewhere for solutions, drawing on knowledge accumulated in other fields of study and using methodology previously tested there (either exactly as it is or modified somewhat) – primarily, methods employed by developers of information systems (which is only natural, with this particular research area also being a focus of Gvinepadze’s own domain).

Some well-corroborated theories were built upon this hypothesis to trace the origins of a number of Georgian words hitherto seen by Georgian linguists as etymologically “hopeless”, such as “mta” (“mountain”), “tevzi” (“fish”), and “tavi” (“head”).

Gvinepadze would not confine himself to the Georgian language, though. He proceeded to suggest an original hypothesis (albeit one with roots going back thousands of years) as to the genesis of the word “Allah”, or the God. He contends that this word consists of two roots (GOD (heavens, a heavenly body) [give] WATER) and that it was first uttered in the protolanguage era, that is, before humanity’s original mother tongue diverged to form the numerous languages spoken today.

Curiously, old Georgian words that, in some of their aspects, are related to the notions of “GOD” and “WATER” proved very helpful in advancing this theory, he says. Georgian just happened to be a link in this case. But parallels can be found in other languages, as well.

Gvinepadze pays tribute to the Georgian-born historian and linguist Nicholas Marr, who came very close to discovering the water theory (indeed, all things new are old things once forgotten).

As for other, related hypotheses (including two suggested by Marr), they all seem valid, but each goes only so far in explaining the origins of human language.

Importantly, the water theory is completely in line with the mythology of ancient civilisations scattered in time and space, as well as with biblical narratives. It does not give preference to any particular language over the others; it just points to their common roots (or one single root, to be precise), showing the pull end of a magic yarn ball that skilled hands may transform into Ariadne's thread, to help people find their way through the maze of today's language realm.

In our view, this theory has proved its efficiency by yielding tangible results in efforts to determine etymologies for so-called "hopeless", primordial words. It is clear, though, that its further development and the acquisition of new practical results (the subsequent stage in early human evolution – the taming of fire – also must have played an enormous role in enriching and streamlining the language) are hardly possible unless there is powerful computer support.

There have been some significant changes lately in studying and preserving language diversity – one of humanity's major treasures. A graphic example attesting to this is the earlier mentioned Wiktionary, which has branched off from Wikipedia to start an international online lexicography project. It has got clones in lots of languages now, and its popularity builds up as we speak.

But, along with the many obvious advantages, Wiktionary has considerable shortcomings. Specifically, it neglects the potentialities realisable in computer-aided expert systems. Textual content is the only thing each of its entries provides – a situation that falls short of today's requirements for information systems (including interactivity in query processing) and that fails to ensure acquisition of new knowledge using Artificial Intelligence (AI) methods.

A follow-up project we propose is that of an online etymology dictionary, with software designed to assess the level of possible etymological affinity between pairs of words that have similar pronunciation and are related semantically. It is members of the expert community who will have the final say on the words' affinity or lack thereof, though.

Our dictionary will draw on a vast lexicon formed for dozens of languages, along with an extensive database on semantic interword ties. We expect it to be of much help to professionals and to anyone interested (something that, importantly, may lead to a manifold growth in popularity) – and not just in searching for etymologies of individual words, but also in verifying hypotheses concerning the semantic ties between entire layers of language.

Supposedly, it has occurred to a user that the words “hearth” and “home” may (or must) be etymologically related (partly, at least). Here is what our system is going to respond to such a query (and, as was said earlier, it will be up to an expert panel to subsequently decide whether or not the furnished evidence is conclusive):

- hearth – hearth (see Wikipedia);
- kera (Georgian for “home”) – keria (Georgian for “hearth”, “fireplace”);
- komli (Georgian for “household” (in rural communities)) – kvamli (Georgian for “smoke”);
- dom (Russian for “house”) – dym (Russian for “smoke”);
- plemya (Russian for “tribe”, “kin”) – plamya (Russian for “fire”);
- chado, chad (Russian for “child”, “people”, “folk”) – chadit’ (Russian for “emit fumes”; in Slavic languages, the noun “chad” denoted “smoke”, “fumes”).

In this particular case, the theory’s validity for each separate pair of words (which can be regarded as kind of a mosaic tessera) should be of little relevance to us. But, as the number of such – more or less probabilistic (in terms of correlation) – pairs grow, it will become evident to all or nearly all beholders that the picture they are watching unfold represents, say, an African landscape rather than an example of Arctic scenery.

We view our new online dictionary project as the next step in Wiktionary’s evolution. Along with some purely pragmatic objectives, it will also have a noble mission to pursue – highlighting origins shared by all human languages and thus setting the scene for communities of the world to unite around a common humanistic cause.

Conclusion

In this report, we have presented some of the projects running at the Georgian Engineering University’s Department of Computer Science and Database Management Systems, with the premise being that too little is actually known of them outside Georgia. Admittedly, computer linguistics is not a major area of research at an engineering school such as ours. Yet, we reasoned that a look at related issues from the outside – from an engineer’s perspective – could add an interesting new dimension to the conventional view.

In Georgia, research in linguistics, including computational, is done mainly at the Linguistics Institute, in related departments of Tbilisi University, and at several other academic institutions; international conferences and symposia are held here annually to share expertise on the various aspects of language theory and practice.

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Multilingualism in Kazakhstan: Politics, Trends and Problems

Contemporary Kazakhstan is a poly-ethnic country, as many other post-Soviet republics are. It has specific problems with language policy. Let us turn to their sources, bypassing deep historical analyses.

The post-revolutionary years were hard on Kazakhs. Many of them were forced to emigrate, mainly to China, Afghanistan and Turkey, and many perished in the famine, rural collectivization and reprisals of the 1920s and 30s. By 1939, Kazakhs made 38% of the 6,093,500 population, Russians 40.2%, Ukrainians 10.8%, and the rest 11%.

The 1920s through early 40s saw two writing reforms in Kazakhstan. Arabic writing was replaced by Roman, ousted in its turn by Cyrillic in 1940. People who knew the Arabic alphabet turned into illiterates and had to learn the Roman alphabet. The story repeated later with Cyrillic.

The Russian language dominated education, research, management and interethnic communication. Kazakh was limited to literature, partly education, and paperwork in a small part of rural offices. The basic functions – education, research, information and communication – belonged to Russian. By 1991, when Kazakhstan gained independence, three or more generations of Kazakhs had received higher education in the Russian language, and integrated into Russian culture, science and community life. A majority were bilingual while the two languages coexisted in parallel information worlds. Though language was not a social identifier, Russian-speaking professional people had a higher socio-cultural status.

In 1991, Kazakhs accounted for 39.7% of the population, Russians 37.8%, ethnic Germans 5.8%, Ukrainians 5.4%, etc. Close on 40% of Kazakhs had an inadequate command of their native language or did not know it at all. More than 130 ethnic entities were represented in the country. The languages of some of them enjoyed very limited and selective government support, e.g. Uighur, Korean and German.

This linguistic situation at the dawn of Kazakhstani independence substantiates the subsequent language policy in the Republic of Kazakhstan.

Its principles are formalized in the following basic documents:

- The Constitution of the Republic of Kazakhstan;
- The Law on Languages in the Republic of Kazakhstan;
- The Law on Education;
- The Government Programme of the Development and Functioning of Languages for 2011–2020;
- The Language Triunity government project, the initial stage of whose implementation concerns mainly education and business.

The acting Law on Languages in the Republic of Kazakhstan, endorsed in 1997, proclaims Kazakh the state language. One of its clauses stipulates the status of the Russian language: “The Russian language shall be used officially on a par with Kazakh in government agencies and local government.” Russian enjoys de facto the status of an official (second state) language.

Official documents are worded with due political correctness and appear optimistic from the point of beneficial conditions for the preservation and study of ethnic cultures represented in Kazakhstan, the development of languages and the formation of a multilingual environment. The Assembly of People of Kazakhstan is an institution symbolizing interethnic accord buttressed by the government policy.

Legislation formulates the principles of the Kazakhstani version of interethnic tolerance. Prominent among them is “ethnic, religious, cultural and linguistic diversity” as “the state shall provide the conditions for cultural and linguistic development”. The Doctrine of National Unity of Kazakhstan is a document that seeks to enhance the role of the Kazakh language as formative for the emergent national identity, which is thus linked to the drive for Kazakh cultural and linguistic renaissance that accompanies national development.

As the state language, Kazakh is extending its functions and sphere. Its information field is also extending in the media, education, and entire cyberspace as ICT get more and more prominent in our everyday life. The public and the state are active in the digital sphere as e-governments are established and state agencies and services create their websites.

However, the Kazakh-language content and its informative value still remain secondary. Critical analysis is inadequate as the available information flow is selected, adapted and assimilated. Kazakh- and Russian-language cyberspace

is interspersed with clichéd English borrowings and calques. Life among preconceived mental categories and off-the-rack ideas and images is comfortable and reassuring. It does not require intellectual effort and saves time. That is how languages lose their essential mission (what Chinghiz Aitmatov named “the proto-hypostasis of every nation”) with the fading of their philosophy, imagery and expressive force.

More than that, certain websites in the .KZ domain are really not Kazakhstani, which jeopardizes our independence in cyberspace. Aggressive cyber technologies threaten information security on a global scale as they emerge worldwide. No borders can stop them. Naturally, opposition to them also needs a global scale. Naturally, the technical and technological potential of the Kazakh and any other language in cyberspace correlates with general problems of a universal purport.

Education has problems because of inadequate Kazakh-language technical and scientific terminology, and substandard translations from Russian and English misrepresent information. Manuals and study books for schools and universities do not meet information and methodological demands, and their look is beneath all criticism.

Kazakh language teaching methods are inefficient, and many experts point out insufficient motivation of its study because the language is in small demand. The situation requires practical academic, technical and didactic action, and new information and pedagogical tools and methods for radical improvement of language teaching. We can only regret that linguists take no part in it: they are preoccupied with cleaning the language of foreign borrowings, and introduce Kazakh coinages to replace international words such as “balcony” and “computer”.

Importantly, the Russian language is still in active use – not due to its past politically guaranteed domination. It is one of the world languages, and its presence in the information environment satisfies a greater part of the Kazakhstani public. Not this active presence in information and communication makes the problem: an ample information flow from another country that promotes its natural national interests is the true challenge.

Thus, the actual linguistic situation and the related achievements leave much to be desired, especially where the support and development of the Kazakh language are concerned, however paradoxical it might sound. The problem is rooted in:

1. Its small competitiveness as a full-blooded state and cultural language of the entire Kazakhstani community.

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2. The danger of being ousted into the communicative background as it is hardly able to meet pragmatic social and individual challenges under globalization.
 3. The linguistic modernization programme, which threatens to turn Kazakh into a quasi-language.

Endangered languages and their salvation are also entitled to special attention. I mean the languages of ethnic entities that were colonists in monarchist Russia and were later deported to Kazakhstan in the Soviet era. These are, among others, the so-called “Soviet Koreans” and “Soviet Germans”, who preserve unique dialects of their original ethnic languages. The German and Korean diasporas were rather large in Soviet Kazakhstan, and their linguistic and cultural development enjoyed active government support. German- and Korean-language media outlets and stage companies survive to this day. However, a majority of ethnic Germans have immigrated to Germany to accept its modern language, while the remaining few are being assimilated in the Kazakh community and only the elder generation retains the ancestral language. As for ethnic Koreans, their language is modernizing thanks to South Korea’s dynamic efforts teaching modern Korean, in its southern variant, at linguistic educational centres based in the countries possessing Korean diasporas.

As the result, we are witnessing the slow death of languages that preserve the memory of considerable ethnic entities’ historical landmarks, economic routine, philosophy of life, cultural and moral values, and vocabularies bearing the imprint of contacts with other peoples.

Regrettably, the Convention for the Safeguarding of the Intangible Cultural Heritage qualifies language as mere bearer of such heritage. Though it is the basis of organizational efforts to replenish the list of such heritage at the national and international level, it does not regard language as a specific part of ethno-cultural heritage.

It is long necessary to draw and discuss a document that would conceptually substantiate the protection of endangered languages within the competence of the UN member states’ international legal obligations to meet this international challenge.

The world can take pride in the Silk Road, a transcontinental Eurasian commercial route that is one of the most spectacular global projects with a formidable civilizational and cultural impact. In the Antiquity and the Middle Ages the route enabled nations from East Asia to the Mediterranean to exchange information and scientific and technological achievements. The Silk Road is a model global channel of multilingualism and culture genesis.

I think, humanity has always been capable of civilizational and cultural exchanges. What matters is the goal of interchange, to what purpose its channels are used, and the extent to which we can preserve the balance of healthy pragmatism in technological breakthroughs and natural demand of communication.

The emergent cyberspace presents another opportunity to create a new model of global humanitarian partnership with such universal tools as the languages and cultures of present-day nations. According to Jurgen Habermas, language is universal in its ability of communicative action, which achieves its ideal in discussing everything to come to an accord. To all appearances, to draw an international code of ethics in cyberspace is necessary to keep up this modus of international coexistence. Such a code would provide an alternative to globalization with its own legal and ethical norms protected by the natural laws of human survival. Cyberspace is a part of the environmental system, which requires protection and support. “This world is far from perfect but man is guest to man,” according to a Kazakh proverb – an idea similar to Kurt Vonnegut’s famous, “We are here to help each other get through this thing, whatever it is.”

SECTION 5. MULTILINGUALISM FOR WELL-BEING

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National Languages and “Minoritized” Languages in a Long-Term Perspective

1. Introduction

It is almost clear that digital content per sé it is not good or bad in relation to “minoritized” languages as it happens for knives (you can cut bread or kill someone).

Let us analyse the process in a long-term perspective. Documents and different formats, media and alphabets survived for centuries and millennia reaching us as a legacy from past generations. They are still accessible, readable and mostly understandable. In Pompei (Naples) we can still read graffiti on plasters promoting a Roman politician or supporting a local sport team. Furthermore, ancient minority languages such as Etruscan are still readable as well.

What will happen in 50, 100 or more years to our documents and, much more concerning, to documents written in “minoritized” languages?

2. Our language, our legacy

As we already discussed on the occasion of the digital preservation meetings and related outcomes and recommendations, the future of digital assets is not safe at all, digital media are disintegrating, logical formats disappear, and hardware has a short expectation of life. Apart from similar concerns, let’s consider, as an assumption, that digital preservation problems will be cleared. Which kind of documents, content, knowledge, “culture” will be transferred to future generations?

How can we foresee the future not only of “minoritized” languages but also even of major languages that are not the dominant ones?

What will happen to “minoritized” languages? Even if today translators, virtual keyboards, extended alphabets, and more really facilitate the creation and translation of documents written in a “minoritized” language into a different language, the concept of networking itself relies on a “common/shared” language.

One possible scenario presupposes that “minoritized” languages will not “fully” enjoy the opportunities offered by the network while “major” languages and, much more, “dominant” languages will take full advantages of networking. Information and knowledge will be transmitted, shared mainly through major and dominant languages. Main information channels, research documents, cutting edge technologies will be coded in dominant languages. Competitive advantage will be relevant for those who master that language.

This means that at the end the gap between the two realities will increase. If you want to be part of the “leading team”, share knowledge and know-how, you must write, read, and think in a dominant language.

3. The future of national languages

In a similar perspective, “national” languages are present to different extents on the Internet and participate to information and knowledge sharing. Nevertheless, in order to exceed the “orbit” of national boundaries such outcomes must adopt a dominant language. Again we can foresee an increasing gap between “national” languages and “dominant” ones. No matter what the “dominant” language of the time is, today it is English, tomorrow it may be Chinese or Arabic.

If we consider a historical perspective with reference to the adoption of different languages and even cultural behaviours we can, for instance, refer to the youngsters in the Venetian republic. They used to grow up and get education in Middle East countries in order to speak and behave as Arabs did. Once adults they used to trade with Arabs and this was the best training for them. The same happens even today; it is often enough to speak the local language to enter a completely different relationship with people. We must remember Nelson Mandela’s words: “If you talk to a man in a language he understands, that goes to his head. If you talk to him in his language, that goes to his heart.”

It happened many times in the past that the “dominant” language of the time – Latin, Spanish, French – was adopted by researchers, writers, and artists, but this time, due to the Internet and other powerful media, the risk for national languages to leave the foreground of the scene is more relevant.

Not only “minoritized” languages are under threat, sometimes, and nowadays many times, even national languages are in danger. Languages are living creatures, they change, evolve adopting neologisms, incorporating foreign words, acronyms, and idioms. In order to keep a language alive we must speak, exercise and study using that language. Of course this is not the only aspect to be considered but it is for sure one of the most relevant.

4. A key choice: languages in educational institutions

If marketing managers, on the one side, use to segment the market multiplying the number of products and options and offer different items on different markets, on the other side, companies dream of a “planet” of homogeneous customers: one issue, one taste, one language. The trend imposed by globalisation influences not only our behaviour and taste but even our educational environment.

I neither speak about foreign languages courses included in different curricula ranging between primary schools up to university nor about the option to attend a course in a different language, these are positive opportunities.

The actual trend is to switch between national languages to a dominant language only. Such a choice, often not offered as an option, is inspired by the will to extend the “audience” and align with the dominant language of papers and publications in general. Some universities decided to offer full curricula in the dominant language only for better internationalisation indices and to attract foreign students.

Such a change may not be considered “neutral” with reference to local knowledge, cultural assets and identity (quotation, idioms, references, etc.). The idea to abdicate in favour of a dominant language represents a real threat for national languages. Dominant languages will be gradually enriched while local ones will be deprived day by day.

We can analyse the situation taking adequately into account different aspects that all together influence the result: subjects, speakers, audience, and comprehension.

The subject

A specific subject may influence the impact due to the language; major part of subjects do have a preferred language at least at the high level. For instance in Europe, German seems to be the official language for maths and geometry just as English is preferred for information technology or as it happens for Italian in the field of music. Of course, it may happen that the history of Renaissance architecture has good bibliography in English even if it refers to an Italian style. Anyway it is common understanding that the ability to study Dante Alighieri knowing Italian language as well as to read Cicerone in Latin, Pushkin in Russian and Shakespeare in English provides some added value and a different level of comprehension of the text (nuances, etc.). Language certification of both students and professors, when requested, is not enough. The transition between a set of lectures, workshops and exercises from the local language to another language takes some time and resources. It is not a simple matter of proper translation, although this is not a simple task of itself. We all know how difficult is to “render”

the same “concept” in a different language. How boring a translation of a brilliant speech may be if flattered by the standard vocabulary of a translator. We lose local references, jokes, idiomatic forms, intonation, meaningful pauses and non-verbal content. What about bibliography and workshops? We must rethink and reshape everything almost from scratch. How long will this process take, how much effort will be devoted? Will the overall quality of the final “product” be comparable to the original one? We really don’t know.

The Mentor

To be forced to attend courses in a language that it is not our mother tongue may mean: a “foreign language” mother tongue speaker having a perfect knowledge of the specific topic, terminology, buzzwords, and tricks; on the opposite, a local speaker with limited knowledge of the foreign language, terminology, buzzwords, etc., this is a real mess. I remember the early books in the field of computer sciences literally translated by professional translators, having no background in that young field. They were very hard to understand just because of the lack of a shared glossary.

Human Capital

As there is often no clear idea about the university’s human capital, the result is a flattered set of courses. They lose, we hope not forever, the richness of meanings, nuances, and appeal. From the management point of view, there is a declared ability to understand and speak a different language or languages but this doesn’t mean to teach in a different language. This is probably a consequence of the “black and white” logic in opposition to the fuzzy logic. What happens in live interaction? Students pose questions in their national language and it gives start to a funny mixed language interaction resembling much more a movie’s scene than a university lecture.

Content

Apart from the considerations mentioned above, one of the potential aims of dominant language lectures is to provide an opportunity to work in a global market, to offer a worldwide approach to the specific topic. This means that the content of the course itself has to be reshaped in an international perspective. As already outlined this takes time and resources and is not a simple “porting” of the same content in a different language.

Students

It is not for sure that the use of a dominant language will attract or facilitate students.

Some students coming from abroad may not share the same dominant language. They may be much more interested in learning the local language than starting from scratch to learn the dominant language. Quite often their own reduced ability to speak and understand the language overlaps similar problems on the mentor's side. All these aspects will decrease the quality of the educational system.

Such a situation even increases the gap between local students and foreign students, the first group will always be able to come back to their own mother tongue in order to ask further explanations or reply to questions on the occasion of exams. The second can't. We cannot accept the shift of the goal from knowing the subject to knowing the language.

5. Long term perspective

Following this trend in the future all major outcomes will be written in a dominant language losing the richness due to different ways to express similar aspects. If it is true that the way we think is connected to the way we speak and read together with cultural behaviour, we will lose a relevant patrimony.

Which kind of legacy will we transfer to future generations? Will the existent gap between national languages/culture and "minoritized" languages/culture increase exponentially? Will "minoritized" cultures be squeezed and preserved in museums only?

At the same time, what about the future of national languages and cultures? Shall we face a "dominant culture/language" only? Will major scientific achievements, literature, history of art and art itself be flattered and unified to the dominant one?

This is a real danger due to the dominant communication media and news. This has never happened in the past centuries, and the richness of different cultural approaches and knowledge was the main engine of growth. Today the "reduced" size of the world due to efficient transportation and globalisation together with global communication channels makes it possible even if not desirable.

6. Final considerations and conclusions

Many years ago, a key player, Microsoft, launched on the market the first version of a digital encyclopaedia (one world – one encyclopaedia). Very soon they discovered that this was a dream. Each country, each culture has a different way to interpret facts and history (in the US telephone was invented by Alexander Graham Bell; in Italy it was Antonio Meucci).

Will pupils and students be deprived of their own native culture or perceive it as an archaic form of culture?

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Language Inequality, Multilingualism and Development

Abstract

In many multilingual societies, language barriers are a reality in a range of domains, and structure socio-economic outcomes. In this contribution, I aim to put forward the question of language inequality (that could be measured with a “Gini coefficient of language”), as an under-considered but crucial factor in socio-economic development, that is increasingly leading to “language flight” in emerging economies, with a negative impact on linguistic diversity.

How does language inequality articulate with the three goals of achieving MDGs/SDGs, universalising cyberspace and preserving linguistic diversity, that have been the object of the IFAP Expert Meetings on Multilingualism in Cyberspace?

Economists on the one hand suggest that the lower the linguistic diversity, the better for the economy; conversely, language advocacy appears to have a humanistic focus on diversity for its own sake, with a rights-based approach for its defense. Can cyberspace be the “pivot” for untangling the “wicked problem” of reconciling diversity with development?

To this end, I propose that it is crucial to explore the linkages between linguistic diversity, language development and economic processes, in terms of both description and measurement, within the discipline of Language Economics.

Introduction

The role of the language barrier in the digital divide has received considerable attention, and is a key topic of the Ugra Global Expert Meeting on Multilingualism in Cyberspace. Can cyberspace also serve to overcome language divides in the “real world”?

I develop this theme in relation to the three goals of achieving Millenium Development Goals (MDGs), universalising cyberspace and preserving linguistic diversity that have been the subject of current and past deliberations, in the form of four points.

1. Language divides and impact on multilingualism

Language barriers in the non-digital world are very much a reality, language being a key factor of differential access to development opportunities in multilingual societies, structured by “inequalities of multilingualism” as termed by one author:

(M)ultilingualism is essentially not characterized by the presence of many languages deemed of equal value or importance... (W)ithin this political economy of multilingualism <...> some languages are invested with much more symbolic and cultural capital than others, and where particular linguistic ideologies accrue to some but not others, perpetuating the privilege of some social groups and affirming the marginalized status of others. (Ruanni 2014)

But language has been a relatively neglected variable in studies of socio-economic inequality (Tollefson 1991). While the correlation of different socio-cultural variables with poverty has been widely studied and measures advocated for their amelioration, there is a lack of data (and theorization) concerning the language factor.

Existing studies on the issue largely focus on the case of linguistic minorities and migrant languages (Beaudin 1996). UNESCO’s document on the importance of language in development, highlights the role of smaller “local languages”:

Participation in sustainable development starts with people discussing matters in their own languages, within their own cultural, social and community structures. From there, they can move on to wider engagement on issues that are generally conducted in the languages of development and power. (UNESCO 2012)

Far less attention has been paid to the developmental stakes of a more equitable terrain for widely-spoken languages with millions of speakers faced with multiple divides, shaping socio-economic outcomes both at the individual level and the societal level.

Of course not all languages have enough speakers to be made a priority. But those with millions of speakers – such as Hausa and Punjabi – ought to play a crucial role in education and government... (I)n contrast to places such as Indonesia, where language policy has planned a prominent role in nation building and education from early on, few countries have sought to use language policy to promote inclusive development. (Kaplan, 2012)

The case of India

A well-known configuration of language iniquity is the use of European languages in higher education and training, government and the formal economy in post-colonial nations, entrenching elites in power while disempowering the mass of the population which functions in indigenous languages.

The language situation in India is a case in point. Striking divides have persisted between English and the “regional languages or *bhashas* – the twenty two listed in the Indian constitution concern 95% of the population – in education, training and mobility opportunities. These multiple divides have been identified as structural factors in educational failure and poverty (Ahmed 2011, Mohanty 2006, Rao 2013).

With the globalised economy, English education widens discrepancies between the social classes... English has become the potent factor in the differential equation. (Mohanty 2006)

In a context of rising expectations, amidst a high growth scenario, the perception of the “English advantage” has become so overwhelming, that the acquisition of English is seen, cutting across all social classes, as a sine qua non for participation in economic growth. English for All has become a politically expedient de facto “policy”, in spite of professed commitment to multi-language acquisition:

India has been working to embrace technology convergence for years;... English is the medium used for this increasingly prominent economic focus within India. (Romig 2014)

Further, India’s policy position focuses more on assimilation regarding language groups than language preservation.

(T)he protection of linguistic rights would interfere with their general goals of political unification and economic centralization. (Tyagi 2003, quoted in (Romig 2014))

The massive trend of “language flight” away from the *bhashas* is ringing alarm bells concerning their future survival (Hariharan 2014, Sanu 2014, Tully 2011).

(B) e it Hindi – the lingua franca – or languages like Tamil, Malayalam, etc. with a rich and ancient literary tradition... all of them become a casualty of people’s aspirations and compulsion to learn the “international” language, English. (Priyadarhini 2012)

The language divide is in general not seen as a priority by politicians. This attitude might be traced to the overwhelming investment of Indian elites in English and the rapidly expanding masses of those who wish to emulate them in the pursuit of the English advantage, coupled with the perception of a lack

of political capital to be gained by attention to the *bhasha* “disadvantage” of those unable to climb on the English bandwagon.

Indian languages appear as an after-thought even in policy making concerning economic development.

Suggesting to the CEOs (of Silicon Valley) that India represents both the biggest opportunity and the biggest challenge for them, (Prime Minister) Modi asked them to keep regional languages in mind, as they develop their content and firm up investment plans for India. (Press Trust of India 2015)

On another plane, what might be termed as the “cultural” ghettoisation of Indian languages could also be held both responsible for and an outcome of this “benign” indifference – *bhasha* is inevitably coupled with *samskriti*, meaning culture, in public discourse on language in India. The “vernaculars” are not seriously viewed through the prism of development.

2. Language advocacy: diversity or development?

A comparable gap is suggested in a certain discourse on multilingualism and linguistic diversity that is produced at UNESCO Expert Meetings and other deliberations on these issues.

Within the considerable production and advocacy, there is a discernable focus on diversity as a value in itself, even an aesthetic value (“the aesthetic of diversity”); further, a principle of “equity” between languages posited against the structural “inequalities of multilingualism”, leading to an argument of rights, almost to be understood as the “rights of languages”.

Do languages really have rights... in the same ways that citizens have rights? (Mufwene and Vigoureaux 2014)

This perspective tends to relegate economic pressures on languages, while recognizing them, to a less-legitimate plane; an oppositional stance positing that “mere economics”, as some put it, should not prevail over nobler goals such as defense of cultures, identities and social cohesion.

But the structural iniquities in outcomes due to language barriers do operate within economic and political contingencies and dynamics that determine the environment of opportunity or deprivation of people and communities at any given time.

These are the very forces that drive the most often **language choices** militating against the preservation of multilingualism, by both policy makers and individuals in the pursuit of socio-economic outcomes. As is well known, under globalisation pressures, the promotion of “high market value” languages by governments is inducing “language flight”, the abandonment of marginalised

mother tongues or heritage languages in favour of language(s) of advantage, by aspirational populations. A recent controversy in India for example, pitted the learning of Sanskrit against the learning of German. (Deutsche Welle 2014)

This is in phase with the view of economists, who have in general privileged low linguistic diversity for economic growth.

Economists... see societal multilingualism as an obstacle to economic development, especially in countries of the developing world... which have limited financial resources. (Mufwene and Vigoureaux 2014)

On the other hand, UNESCO has conceptualised languages as development tools, necessary for the achievement of the MDGs (Millennium Development Goals) which are “a set of shared aspirations and efforts to make the world a more equitable and sustainable place” (UNESCO 2012), recently reconceptualised as the SDGs (Sustainable Development Goals).

The question thus arises of how to confront the “wicked problem” of enabling social and economic development while defending linguistic diversity, complementing humanistic arguments with a search for “satisficing” solutions – in effect, which end of the stick do we start with?

This raises the challenge of understanding the linkages between multilingualism and the economy – on the one hand, growth-driven policy may privilege high market-value languages, and on the other hand, language advocacy may argue for the crucial role of languages in development processes, without necessarily answering the question “Is linguistic diversity a boon or a curse?” raised here by Sozinho Matsinhe. Arguments to policy makers and decision makers, would appear to be more convincing if the linkages between investing in the language infrastructure, or technical education in local languages, for example, and socio-economic outcomes were to be more clearly enunciated.

3. Responses to the language barrier – digital technologies as an answer?

At the Ugra Expert meeting, Adama Samassékou has posed the question of how to transform the language divide into an opportunity, and how to use digital technologies to enhance diversity and achieve the MDGs.

The first question can be reformulated in terms of considering the language divide as a spur to develop tools and capacities for languages to serve development purposes: that is, addressing the language divide by empowering languages for:

a) enhanced economic relevance, to level the playing field for individuals' access to opportunity, so as to arrest “language flight and preserve diversity;

b) enhanced productivity of “vernacular economies”, to gain their rightful place in national development, that is, offsetting the economists’ prescription of an economically efficacious monolingualism, by fostering a dynamic multilingualism in the economy.

Within the perspective of universalisation of access to cyberspace (narrowing the digital divide), considering linguistic diversity and multilingualism as a necessary condition of universalisation, reflection and action has hitherto indeed been focused on capacity building for ICTs and language technologies, with provision of digital infrastructures, services and contents, including enabling knowledge and information in the largest number of languages.

This “language empowerment” might be considered as a “pivot” to untangle the “wicked problem” of diversity and development.

The second question of Adama Samassékou can thus be reformulated: “What role may be envisaged for digital technologies and cyberspace, in empowering languages, to compensate the push factors of economics and market forces towards language marginalization and to overcome the “real world” language divides, and thus foster a virtuous cycle between development and diversity?”

From supply-side to demand-driven

However, “supply” of digital tools and capacities in languages, while it may be generating remarkable economic dynamics otherwise, does not necessarily “create its own demand”. The “supply-side” dynamics is accompanied by some expectation that the provision of digital capacities will enable leapfrogging over traditional language barriers and expand opportunity for hitherto marginalised language groups, producing appreciable shifts in the “real world” inequalities and balance of power in relation to language – but can this happen by itself? In other words, is “supply” specifically fructuous when there is a social “demand”, or political pull, for these capacities?

Albaugh (2007) describes how certain African countries, in enacting mother tongue education policies, responded not to “a vague call by the entire international community to promote languages in support of diversity”, nor to “language groups demanding rights to use their languages in education”, but to “pull” and “push” factors, enabled by a particular “moment of opportunity” when the “push” factor (of language capacity development and advocacy) came in phase with a “pull” factor (a new discourse on mother tongues from a former coloniser).

Thus, if significant advocacy and capacity building is a “push” factor, I contend that a “pull factor” is required to substantially change the playing field, such as a policy-driven macro-environment favourable for the fructuous

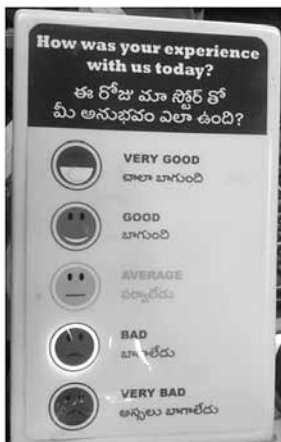
deployment of digital language technologies in specific programmes serving tangible socio-political objectives.

Such a “moment of opportunity” seems to have been created in India in recent months, concerning the provision of technical education in Indian languages, with the announcement by the Government of three major “game-changing” initiatives: “Make in India (transforming *India* into a global manufacturing hub, www.makeinindia.com), “Digital India” (scaled-up provision of services through massive expansion of online infrastructure and Internet connectivity, www.digitalindia.gov.in), and “Skill India (training the vast youth population in industrial skills, www.nsdcindia.org).

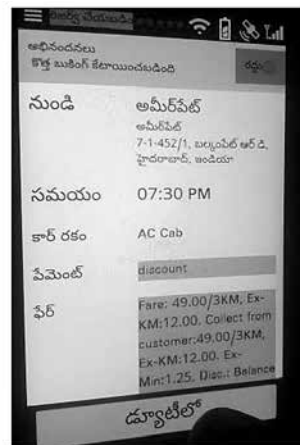
The macro “pull factor” here is the growth thrust of the new government, the platform on which it came to power, essential for its own political survival, combined with the change factor of the urgent need for skilled manpower. With projections of a need for hundreds of millions of skilled workers in the next decade to serve manufacturing growth, cyberspace has to be emphatically the efficacious delivery mechanism for training, and carried out in Indian languages. If this happens, the major Indian languages will attain the status of languages of the modern economy.

Digital tools “at work” in a south Indian language

We give here two illustrations where digital technologies have responded to a “market demand” or created an economic dynamic in the local language.



(A)



(B)

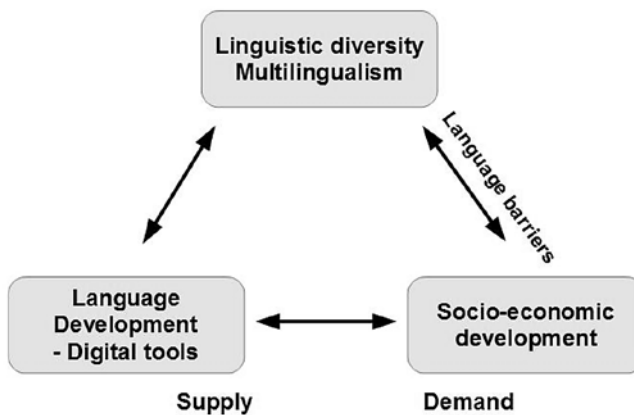
(A) A simple bilingual automated customer satisfaction survey in a supermarket chain, which is nonetheless a sign of the recognition of the market value of *bhashas* – one can envisage systems carrying out more complex informational tasks.

(B) A digital dispatching system developed by a taxi service in the south Indian city of Hyderabad for use by “mono-literate” drivers, in the local language Telugu.

The latter is an example where a market demand has led to the creation of a productive tool in the local language, directly enabling livelihoods in the language.

4. Missing links: multilingualism, language development and economics

Adama Samassékou’s question on how to use digital technologies to enhance diversity and achieve the MDGs, suggests that the different factors need to be looked at simultaneously, as represented by the following triangle.



Exploring the linkages between these three dimensions, that is, multilingualism, socio-economic development, and digital language capacities could contribute to examining the ways to foster a virtuous cycle between diversity and development, given a macro environment with “pull” factors (political will, resources, social demand), and structural factors such as language inequality or “inequalities of multilingualism”.

Reconciling the twin objectives of diversity and development within policy, would require the elaboration of “selling” arguments for pushing language as a primary variable in planning rather than as an after-thought, and in

contexts where people “vote with their feet” in favour of languages with high “market value”.

Among questions suggested by the above triangle:

- a) How may the enhanced (or lack of) capacities of languages contribute (or not) to socio-economic development?
- b) What cost-benefit arguments might be developed for investments in enhancing capacities of languages for greater economic relevance (higher education, training, employment)?
- c) What is the impact of multilingualism on economic growth (“an asset or a liability”?)
- d) Conversely, is economic growth an asset or a curse for linguistic diversity?
- e) While there is an evident overlap between actors of the economic and the digital arenas, and this meeting brings together actors of both cyberspace and language advocacy, linkages between the latter and developmental actors including economists are less evident, as underlined by Mufwene and Vigoureaux (2014).

Such questions may be addressed within the emerging discipline of Language Economics which has taken on particular salience in the context of globalization (Grin 2002, Oustinoff 2012).

A Gini coefficient of language?
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A “Gini coefficient of language” could serve to measure the “inequalities of multilingualism” in a given territory. It could be defined as the dispersion of a “development index” for each language, weighted by its population. This index could be a synthetic measure of the language’s functional capacities, its presence in different opportunity spaces, its communicative range, even its symbolic and cultural capital.

Conclusion

We have raised some questions in relation to the role of digital tools in reconciling linguistic diversity with socio-economic development.

These questions must also be addressed contextually, and a typology of cases could be developed – as suggested above, language dynamics can be radically different between a context of low growth and one of high growth, or between a context of high or low language inequality. Vicent Climent Ferrando has

signaled a favoring of “large language” multilingualism within the European Union, within a push for growth, with a concomitant lowering of budgets for the defense of small languages. Among post-colonial states, with a high degree of linguistic inequality (with the primacy of an ex-colonial language), low growth might very well be a benign preserver of linguistic diversity, while in the context of high growth, the “pull” of the ex-colonial language (English in India, for example) might be significantly accelerated, in the absence of investments in language development for participation in growth. In such a case high growth might very well be a curse rather than a boon for linguistic diversity.

We have suggested that Language Economics could be a fruitful disciplinary framework for addressing these questions.

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Towards an Alliance for Digital Language Diversity: Vision, Goals, and Challenges

Introduction

The relationship between language and the Internet is a growing area of policy interest and academic study, see for instance (MAAYA 2012), (Paolillo et al. 2005), (Pimienta 2001), (Kornai 2013), (Pimienta et al. 2009), (Rehm and Uszkoreit 2012).

The emerging picture is one where language profoundly affects a person's experience of the Internet. It determines how much – if any – information you can access on Wikipedia. It orients a person's choices and decisions by shaping the results of a search engine, depending on the language used. It determines the range of services that can be available over the Internet, and therefore the amount of everyday tasks (such as buying a ticket, reviewing opinions about hotels and restaurants, purchasing books or other goods, etc.) that can be carried out virtually. Far from infinite, the Internet, it seems, is only as big as one's language.

Should this hold true, it would be at odds with the original spirit of the Internet, which – according to the words of Tim Berners-Lee – would be a place “to cross barriers and connect cultures”.

But it is safe to argue that the extent to which a language can be used over the Internet not only affects one's experience and choice of opportunities, but also the language itself.

If a language is poorly or not at all supported to be used over digital devices, for instance if the PC keyboard is not equipped with the characters and diacritics necessary to write in a language, or if there is no spell checker for a language, then its usability becomes severely affected, and it might will never be used online. The language could become “digitally endangered”, and its value and profile could be lessened, especially in the eyes of new generations.

These considerations call for closer examination of a number of related issues. Firstly, the “digital language diversity”, i.e. the linguistic diversity of the Internet. Secondly, it is important to reflect on the conditions that make it possible for a

language to be used over digital devices, and on what can be done in order to grant this possibility to languages other than the so-called “major” ones.

The digital language divide

In order to establish a sustainable policy for safeguarding and promoting linguistic diversity, the digital world cannot be ignored any longer. As Mark Turin aptly says, “in our digital age, the keyboard, screen and web will play a decisive role in shaping the future linguistic diversity of our species” (Turin 2013). Languages are living entities that need to be used on a daily basis by humans in order to survive. With so much of our lives happening on the Internet and through digital devices, the digital space represents a context that cannot be ignored. Speakers of major languages can access apparently unlimited amounts of Web content, easily perform searches, interact, communicate through social media and voice-based applications. They can enjoy interactive ebooks, have fun with word games for mobiles, engage in multi-player video-games, or take advantages from innovative language learning facilities for other widely spoken languages.

According to a recent survey (LTInnovate 2013), in 2012, digital content has grown to 2.837 zettabytes, up almost 50% from 2011, on its way to 8.5 ZB by 2015. The community of social network users in Western Europe was set to reach 174.2 million people in 2013, which is about 62% of Internet users. About 800 million people are Facebook users, of which 170 million are from highly linguistically diverse countries such as Brazil, India, Indonesia, and Mexico. The number of Twitter’s active users is estimated around 200 million. LinkedIn has 115 million users, and Google+ as many as 180 million¹¹⁹.

These numbers, as imperfect as they may be, give a flair of the depth and breadth of the Internet. But what can be said about its linguistic diversity? How the enormity of Internet users behave, from a linguistic point of view? Which languages do they use? In other words, does the Internet reflect the linguistic diversity of the planet?

A study by W3Techs¹²⁰ shows that at the time of writing of this article, 55.9% of all content online is in English. Aside from English, Spanish and Portuguese, only five other EU languages (German, French, Italian, Polish and Dutch), out of 60 or more spoken in the Union, are published on more than 1% of the top million sites (LTInnovate 2013).

¹¹⁹ Source: *Language Connect*: www.languageconnect.net.

¹²⁰ http://w3techs.com/technologies/overview/content_language/all.

With reference to domain names, a majority of domains (78%) are registered in Europe or North America: a finding that reinforces the dominance of those two regions in terms of Internet content production. Asia, in contrast, is home to 13% of the world's domains while Latin America (4%), Oceania (3%), and the Middle East and Africa combined have even smaller shares of the world's websites (2%). Globally, there are about ten Internet users for every registered domain. The United States is home to almost a third of all registered domains, and has about one website for every three Internet users.

From the Wikipedia point of view, Wikipedia articles in 44 language versions of the encyclopedia are highly unevenly distributed. Slightly more than half of the global total of 3,336,473 articles are about places, events and people roughly concentrated in the European area, occupying only about 2.5% of the world's land area: the majority of content produced in Wikipedia is about a relatively small part of our planet.

The Internet, therefore, appears to be far from being linguistically diverse. English is still the language most used over the Internet, the one for which more content is produced, and also the privileged tongue of the majority of its users. With a handful of languages dominating the web, there is *a linguistic divide* that parallels and reinforces the digital one. Exactly as there are areas of the world deprived of access to the Internet, there are entire languages that cannot get to the Internet. The consequences of such a digital language divide are severe.

Since only the speakers of some dominant languages can hope to access the Internet, its use and usability is dramatically affected. The amount of information and services that are available in less widely spoken languages is reduced, thus creating inequality at several different levels:

- inequality of linguistic rights and digital opportunities for all languages and all citizens;
- inequality of information and access to services;
- unequal access to technological development and unequal digital dignity;
- unequal opportunities for language survival.

Let's briefly review them in more detail.

Inequality of information and access to services. With 55.9% of all online content estimated in English, it is plain that only those who can read English can access the majority of the information available on the Internet. Machine Translation is a way to get hold of the content available in another language, yet Google Translator is available – with very different degrees of accuracy –

for 90 languages only, of which 39 from Europe, 38 from Asia, 10 from Africa, 1 from the Americas and 1 from the Pacific region.

The largest and most linguistically diverse online encyclopedia, Wikipedia, is available in 290 languages, a fairly remarkable number. However, there are striking asymmetries in the amount of information available for the different language editions. The Swedish Wikipedia, which is the second largest after the English one, has less than half the number of articles that are available for English¹²¹. On the other side of the spectrum, there is a near absence of any content in many African and Asian languages¹²².

To use the Internet at its fullest means to get access to the whole array of available services such as social media, or reviews sites such as TripAdvisor, or marketplaces like Amazon, eBay, Etsy or Booking.com, to name just a few. But unless you are fluent in a dominant language, you will never be able to use these services: Facebook supports 70 languages, Twitter 27. TripAdvisor is available in 47 languages, and Booking.com in about 40.

So called “smaller” languages do not enjoy the same range of opportunities as more widely spoken languages. Welsh speakers were denied the publication of ebooks in Welsh over Amazon’s Kindle platform, because of lack of available Welsh electronic dictionaries. There is no Wikipedia for Mansi; speakers of Saami or Tongva have no localized interface for Facebook, and there is no Google translation for Sardinian, or Igbo, or Frisian.

In addition to unavailability of Internet services in some countries and to poor digital skills of large parts of the planet, the lack of support for languages other than the major ones implies that speakers of 94% of the languages cannot access Internet services unless they are fluent in a major language as well.

Unequal access to technological development and unequal digital dignity.

Latest technological advances embedded in current, everyday digital devices such as smartphones or tablets are not accessible to speakers of less-widely spoken languages. For instance, Apple’s Siri, one of the latest voice-enabled smart personal assistants for smartphones, has been developed for 25 languages only. It covers 9 out of 30 EU official languages; an Irish speaker cannot use Siri in his/her language and has to turn to English instead, and still, problems with an Irish accent can be experienced. This inequality of digital opportunities further discriminates less widely spoken languages, by relegating them once more to the realm of family communication and restricted topics. Less digitally represented languages are under the serious risk of being marginalized, and

¹²¹ *Swedish Wikipedia: 1,969,873 articles; English Wikipedia: 4,906,761.*

¹²² *www.zerogeography.net/2012/10/dominant-wikipedia-language-by-country.html.*

eventually dialectalized over the years. According to Carlos Leáñez (cited in Prado 2011), “the less valuable a language is [in the eyes of its speakers], the less it is used, and the less it is used, the more it loses value”. Shrinking contexts of uses can have a devastating effect, eventually leading to the abandonment of a language in favor of another, better supported one. Should this happen, the consequences for a language profile would be dramatic: any language that cannot be used over digital contexts will engage in a “digital diglossia” relationship with another, better supported language.

Unequal opportunities for language survival. Less and less digital contexts of use is what can bring languages to *digital extinction* (Rehm et al. 2012). It is common to associate the concept of extinction with very exotic languages, or those spoken by a restricted minority. However, the concept of “digital extinction” describes a condition that could prove true for many languages, even those far from being endangered outside the digital world. This condition holds whenever a language is used less and less over the Internet because of lack of Language Technology support: then the range of contexts where it is used dramatically collapses and gradually brings the language to disappear from the digital space. Where there is no favorable environment for a language over digital tools, its use over the Internet and through digital devices becomes cumbersome, communication is difficult, and usability of the language is dramatically affected. By pushing the naturalistic metaphor further, we can think of a “digitally hostile environment”: one where it is not possible to type, make searches, have translations, hold a conversation over digital devices. In such a context, a language easily language go extinct.

According to the principles of the World Summit on the Information Society endorsed by the UN, the “Information Society should be founded on and stimulate respect for cultural identity, cultural and linguistic diversity” (UN 2003). However, as new information and communication technologies are opening new frontiers for innovation, creativity, and development, not everybody is able to participate, contribute and benefit equally.

The digital language divide, thus, holds back entire societies from sustainable development, from the information and the means of communication necessary for health and education, from opportunities to engage in cultural, political and economic development. The imperative to bridge the digital language divide, therefore, is rooted in the basic right of all communities, languages, and cultures to be “first class citizens” in an age driven by information, knowledge and understanding.

Digital language diversity and language technologies

For a more equitable world, we need *digital language diversity*. The concept of digital language diversity is an extension of the concept of Language Diversity to the digital realm. It aims to capture the amount of languages over a given digital population, tools, and applications.

Increasing the level of Digital Language Diversity requires to increase the representation of languages over the Internet, either in terms of available content or in terms of possible uses. Availability of content, although desirable, is a necessary but not sufficient condition in order to guarantee true digital language vitality. A typical case is when there is a Wikipedia in a given language, but not localized interfaces of most popular applications and programmes. A user cannot really interact using the language over digital devices. He can only access some web pages: in order to access the Internet and take profit of the services available on it, he needs to switch to another language.

The majority of everyday tasks taking place over the Internet, from as simple ones as writing emails to more complex ones, such as listening to automatic speech translation, are supported by some kind of Language Technology (LT). This term broadly encompasses data and software that allow the automatic processing and recreation of natural language, such as spelling and grammar checkers, electronic dictionaries, localized interfaces, as well as search engines, automatic speech recognition and synthesis, language translators or information extraction tools. Language Technology can make content accessible, e.g. through cross-lingual information retrieval and machine translation. It can open up the possibilities for making purchases and perform transactions over the Internet across national boundaries. It can enable e-Participation, and thus contribute to social involvement. It can enable richer interaction among people from different linguistic backgrounds, and thus foster exchange of knowledge and social dialogue and cohesion.

Language Technology is, thus, a cornerstone of digital language diversity. It represents an *enabling technology* by means of which speakers can interact with machines and devices using their natural language (for a review of the crucial role of Language Technologies for fostering multilingualism and enabling the preservation of cultures and languages, see for instance (Mariani 2015, Vanini & Le Crosnier 2012). If we want to save and preserve linguistic diversity, and especially minority and regional languages, we must necessarily let these lesser-used languages have access to the tools and resources of the same technological level as those of “bigger” languages.

However, despite its increasing penetration in daily applications, Language Technology is still under development for major languages. According to a

research carried out by the META-NET Network of Excellence¹²³, culminated in the publication of 30 “Language White Papers” (Rehm and Uszkoreit 2012), one for each official EU language, 29 European languages are at risk of digital extinction because of lack of sufficient support in terms of language technologies.

The study reports how Language Technology support varies considerably from one language community to another, and about dramatic and alarming differences in technology support between the various languages and areas: in the four areas, English is ahead of the other languages but even support for English is far from being perfect. While there are good quality software and resources available for a few larger languages and application areas, others, usually smaller, languages have substantial gaps. Many languages lack basic technologies for text analytics and essential resources. Others have basic resources but semantic methods are still far away. A recent update of the study (Rehm et al. 2014), demonstrates drastically that the real number of digitally endangered languages is, in fact, significantly larger.

The META-NET study described above clearly shows that, in our long term plans, we should focus even more on fostering technology development for smaller and/or less-resourced languages and also on language preservation through digital means. Research and technology transfer between the languages along with increased collaboration across languages must receive more attention.

However, it must be recognized that this represents a big challenge as well, as fast development of high quality LT is required to keep up with the pace of technological development. If a language does not enjoy good quality Language Technology, it won't be used in the latest voice or language-based applications; it will be replaced by another language and may thus get into the loop eventually leading to digital extinction. On the other hand, if Machine Translation is available for that same language, it will keep being used, even in confrontation with much more widely used languages.

Despite having improved enormously over the last decades, Language Technology is still far from being a perfect solution for multilingualism. As everyone knows, there are striking imbalances in applications and the overall final quality is acceptable for a handful of languages only. However, it must be recognized that their level of development is good enough to justify for more investment and for enlarging the technology to more languages. Some major companies, mostly from the US, are now starting to recognize the importance of multilingualism for their business but they mostly invest in languages of some economic interest.

¹²³ www.meta-net.eu.

The moment is now: if we don't act quickly and effectively now, if carefully planned and focused intervention is not immediately carried out, it might be too late. In the following section we introduce a preliminary agenda that aims at triggering the development of Language Technologies for less widely used languages.

A roadmap: the Alliance for Digital Language Diversity

In order to increase the presence of languages on the Internet and digital devices, i.e. in order to increase digital language diversity, language technology must be enabled for as many languages as possible. It is by no means easy for a minority language to get engaged in the digital world. Small languages need to be given the voice, in technological terms. The challenges – ranging from digital divide and connectivity access, problems in terms of scripts and their digital encoding, lack of terminology, etc., to availability and development of language technologies – can be daunting. However, going digital is not impossible for languages, as long as some minimal conditions are met. Careful consideration and planning are needed in order to develop a roadmap for advancing the sustainability of less widely used languages in the digital world.

The strategy we propose here starts from two assumptions. The first one is that under the current data-driven paradigm of development of Language Technology, production of digital data represents a major bottleneck: the development of language-based applications crucially depends on the availability of large quantities of open data (Soria et al. 2014).

The second assumption is that since lesser used languages are of little economic interest to major players and developers of language-based digital applications, it cannot be expected that these solutions be nicely offered to the public, at least not in the short term.

At the same time, any further delay in development would only deepen the language digital divide by making the possibility more remote for lesser used languages to keep up the pace of the technological development available for better-resourced ones.

A way out can be offered by unleashing the power of speakers as data producers. We are digital “Tom Thumbs”. Speakers produce data, at an incredible pace. It has been estimated that every minute, Twitter users tweet 277,000 times, Facebook users share 2,460,000 pieces of content, email users send 204,000,000 messages, and YouTube users upload 72 hours of new video¹²⁴. And this data has economic value since data is what is needed to develop Language Technology.

¹²⁴ Source: <https://www.domo.com/learn/data-never-sleeps-2>.

What can be done is to join forces to produce more data and empower people to produce data.

The long-term aim of an Alliance for Digital Language Diversity, thus, would be to create a network of individual speakers, associations, content and software developers, media players, and policy makers committed to:

- empowering speakers of less widely used languages with the knowledge and abilities to create and share content on digital devices;
- increasing the amount of content available for less widely used languages;
- advancing in the provision of state-of-the-art products and services allowing the use of RMLs on digital devices.

In the short term, the immediate objectives of the Alliance would be:

- to develop a *Digital Fitness Monitoring System*, i.e. to devise a model of digital fitness and to carry out a survey on digital use and usability of lesser used languages;
- to devise *Digital Language Survival Kits*, i.e. clear and actionable recommendations about what should and can be done for a language “to go digital”: which are the challenges and difficulties, which areas need to be addressed first, for which purposes, etc.;
- to create a training programme targeted to speakers to guide them towards effective production of digital content in their languages;
- to design a roadmap, aimed at stakeholders and policy makers, detailing the institutional and technological challenges as well as the proposed solutions for paving the way to a more widespread use of all languages over digital devices.

Conclusions

Using the words of John Hobson (quoted by Kevin Scannell (Scannell 2013), “The Internet and digital world cannot save us. They cannot save Indigenous languages. Of course these things have benefits but they are not the Messiah. We don’t need another website or DVD or multi-media application, these are short term, quick fix solutions. What we really need is sustainable initiatives, to create opportunities for Indigenous language users to communicate with each other in their native tongue. To get people speaking again.”

It is only by *using* the languages through the Internet that they can be successfully revitalized and kept healthy, and this in turn is possible if current technology embeds language technology for a larger number of languages.

Widening Digital Language Diversity is desirable and possible, as there is no limitation, in principle, to the number of languages accessing the Internet and content provided in those languages.

Even if Digital Language Diversity will never be able to mirror the world's linguistic diversity, we can and should aim at least at a partial reflection of it. International and national policy makers should support and foster the digital presence of minority languages in particular – those more at risk of digital extinction. The range of technical and political challenges involved is very vast, and must be addressed at once in order to endow languages with the minimal necessary instruments in order to access the Internet and start producing content. The development of reliable indicators of Digital Language Diversity is also desirable and we argue that such an initiative should be collectively and collaboratively pursued. These indicators could be used to build an Index of Digital Language Diversity, to serve as a monitoring tool to assess digital language diversity in a certain area and highlight areas where intervention is needed (for instance, by singling out where efforts should be channelled and funding directed).

Although the destiny of a language is primarily determined by its speakers and its broader cultural context, a Digital Language Strategy could help directing the technological development of an under-resourced language, thus providing it a strategic opportunity to have the same “digital dignity”, “digital identity” and “digital longevity” as large, well-developed languages on the Web.

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Bridging the Information Gap between Urban and Rural Lifestyle – Collect, Analyze, Visualize

Abstract

The advance in information technology is increasing the ability to produce as well and consume information on an increasing number of web pages. In this work, we present a tool for delivering local news to complement the deteriorating local newspaper. This could help promote data usage in rural area for improving rural livelihood through its reputation extraction expressed on the hyper local news portal. News articles are collected from online public sources only, i.e. online published news, government portals, Wikipedia, social media, etc., specified by location. Articles on the same topic are grouped automatically by a 'keyword based text similarity' algorithm. Similar news from various publishers and sources are aggregated and classified into genres. Incidents are sorted based on reported time and can be automatically extended to a timeline publishing. The similarity of news articles is measured in 2 dimensions – content and location. As a result, the news and information articles are automatically classified and presented both location-wise (province basis) and content-wise (genre or news category).

Introduction

In this information age, when people in the cities face a need of information, they jump into the Internet immediately. The drastic advance in information technology increases the ability to produce and consume data on an increasing number of web resources. Information overflow is another issue to be considered. It takes much more time to scan and discover the information hidden in the million strings of characters on web pages. Sometimes it is necessary to hop in and out to other pages through links. But information targeting of city dwellers and of those living in the countryside differ a lot. People in the countryside, in a province outside the capital city, where it is not as easy to get Internet access, hardly search and look up for information on the web either. As a result, very often they face the situation of missing or insufficient information. Either the

up to date news or necessary information related to their living and town are not delivered to them.

Filling the information gap between urban and rural people, we run a hyper local news portal, which collects all information related to every province of Thailand from the Internet, and classifies it according to provincial concerns, and topics of interest. This is to serve people on the basis of location-oriented approach. In each province, residents can determine to look for things related to their place in one page. People can easily find information and learn about either necessary or interesting issues for their daily life. Accordingly, the service will help establish a sense of love and concern for their hometown. In this paper we present a tool for delivering local news to complement the deteriorating local newspaper. The goal is to promote data usage in rural areas for improving rural livelihood through its reputation extraction expressed on the hyper local news portal.

Hyper local news generation

Local news collection

In the beginning of the process, it is necessary to collect relevant information from the Internet. We focus on four information sources, where local information are provided, including Thai information web pages, knowledge web pages, social media and news publishing web pages.

Information web pages provide factual information and are mostly constructed by educational institutions or government agencies [1], for example the website of the Mass Communication Organization of Thailand, the website of the Department of Accelerated Rural Development, the website of the Office of National Buddhism, weather and stock market web pages, etc. [2]. Wikipedia is a collaborative knowledge creating website. Social media data are collected from Facebook, Instagram, Google Plus, Twitter and YouTube. Seven news web pages are targeted in this collection.

Regarding the procedure to collect data, we implement web crawling, Wikipedia Infobox harvesting, topic based message extraction and template based crawling corresponding to the nature of the data source. The data collected from these different procedures, which will be ready to use in the analysis process, are factual, social information and news. Figure 1 shows the scenario of data collection.

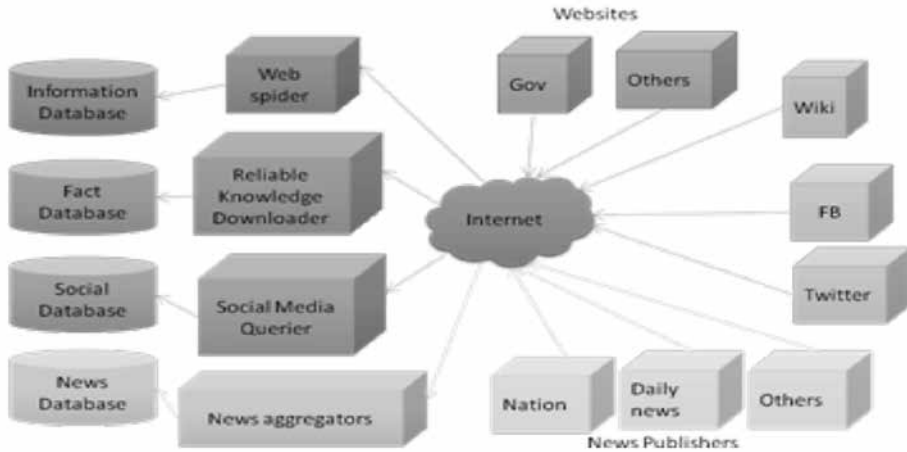


Figure 1. Data Collection Scenario

Table below shows the size of primary sources data. Online news articles were collected during the period of January-September 2014.

Category	Sources	Size
Online news		
Bangkok Post	www.bangkokpost.com	20,602 articles
Manager	www.manager.co.th	90,114 articles
Nation	www.nationmultimedia.com	43,275 articles
Thairath	www.thairath.co.th	40,420 articles
Thaipost	www.thaipost.net	26,699 articles
Daily news	www.dailynews.co.th	59,284 articles
Naewna	www.naewna.com	18,343 articles
Others		
Local product	www.cddopc.com/otopselect2013	3,207 products
Property	www.ddproperty.com	89,304 places
Job	www.jobthai.com	17,477 jobs
Government procurement	www.gprocurement.go.th	62,795 posts
Weather	www.openweathermap.org	5,937 days
Restaurant	www.wongnai.com	99,568 restaurants
Cinema	www.majorcineplex.com	1,091 movie schedules
Exchange rate	Exchange rate (THB<-> Other currency for 10 years)	599,433 exchange rates
Gold price	Gold price	3,702 days
Stock market index	SET index	1,095 days

Local news analysis

After aggregating news and crawling all target information, NLP approaches are used to classify news categories, information extraction, and social media information analysis.

The classification process of news web sites is shown in Figure 2. It consists of word segmentation, named entity recognition, and news domain and province classification together with term frequency ranking based on Term Frequency-Inverse Document Frequency (TF/IDF) technique.

The Name entity recognizer is based on an annotated corpus developed by [3] and [4]. A state-of-the art Thai morphological analyzer trained by ORCHID corpus [5] and TCL's lexicon [6] is used to obtain word boundaries and POS tags.

In this work, TF/IDF is used to identify keywords. We generate a Word Article Matrix (WAM) to map between article and the list of the keywords of the article [9]. The WAM is generated by associating the value of the term frequency to make the matrix ready for estimating the text similarity [7], [8]. Using named entity recognition and TF/IDF-based WAM approaches, we extract the information related to a certain province and category with the acceptable high accuracy. It is reported that the F-measure of the text classification approach falls in between 85–100% depending on the genre [9].

From Wikipedia, the Infobox of politician, celebrity and remarkable persons in town are analyzed according to a specific template.

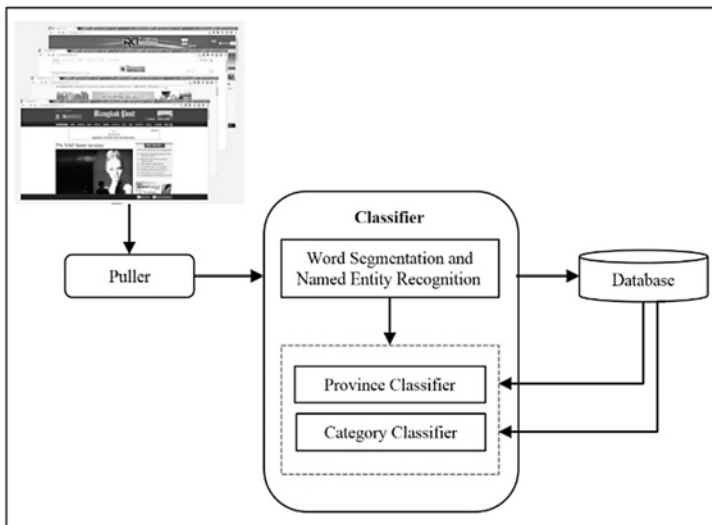


Figure 2. News Classification Methodology

Local news visualization

Due to the amount of texts classified, we manipulate them to be visualized in a proper way on the portal. We apply document similarity based ranking to organize and visualize the data into news categories such as educational news, art and performance news, political news and so on. These categories are designated following the major newspaper categories. Additionally, Infoboxes are also introduced to visualize the data on the portal. The Infobox is generated from information mainly extracted from Wikipedia. Infobox is a kind of template information on a specific topic such as an important person, place or event. Text visualization is implemented in order to present the information on the portal divided in categories, clearly and easy to follow. A sample of text visualization will be shown below.

Hyper Local News Portal

The Hyper Local News Portal is finally available for public view. Province-related information is served so that users are able to scan, discover and learn about facts, trends and hot or breaking news of any provinces or of their hometown in a page. Figure 3 shows screenshots of the portal sections where users can find categories of information related to certain provinces.

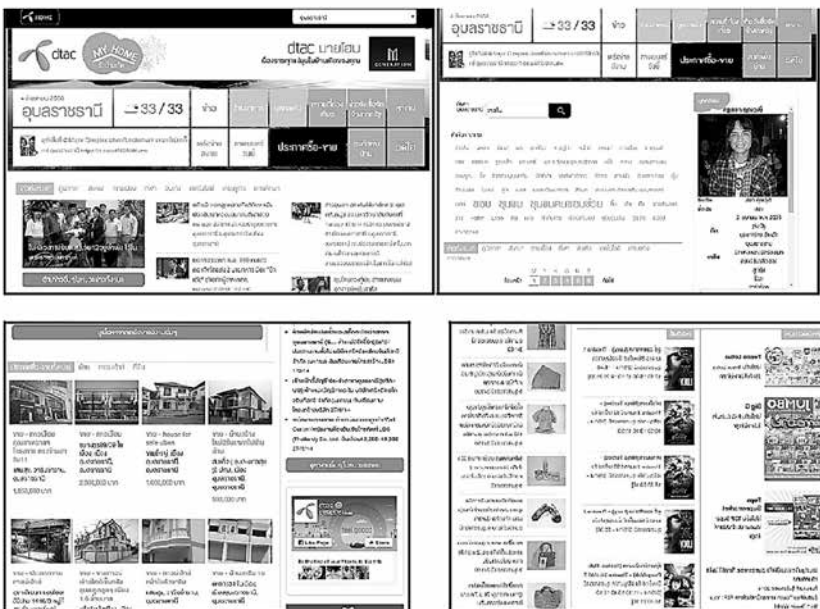


Figure 3. Screenshots of Hyper Local News Portal

Summary

Experimentally, we applied our approach to collect data from various sources such as information web pages, knowledge web pages, social media and news published online. The articles' classification is location-wise (province basis) and content-wise (genre or news category) for the purpose of viewing them as a Hyper Local News Portal. The portal provides information classified for all 77 provinces of Thailand. People of each province can search and discover all information related to their province on one portal. The portal of Hyper Local News can then serve information for the local daily life, i.e. events, restaurants, movies, shopping, weather, celebrities, etc. News and information visualized on the portal are up-to-date and accurate as existing in the original pages. Information on rural areas will be uncovered and accessible to motivate people in their daily life. The approach also yields a promising result in its accuracy of classification in terms of news category and province location, which can be extended to the task of multilingual information platform development and multilingualism support in cyberspace.

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