Placenames Workshop 2012

Theme: Management and dissemination of toponymic data online

24-25 August 2012

Fiontar, Dublin City University, in collaboration with the
Placenames Branch, Department of Arts, Heritage and the Gaeltacht.

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Brollach

Is mór an onóir é do Fiontar, Ollscoil Chathair Bhaile Átha Cliath, an Cheardlann idirnáisiúnta Logainmneacha 2012 a reáchtáil. Bainistiú agus foilsiú sonraí logainmníochta ar líne is téama don cheardlann.

Is é aidhm na ceardlainne seo fóram a sholáthar chun saothar taighdeoirí agus cleachtóirí i réimse na logainmníochta a chur i láthair. Ina theannta sin beidh deis ag taighdeoirí idirnáisiúnta agus cleachtóirí tionscail naisc agus comhpháirtíochtaí a thionscnamh eatarthu féin. Beidh sé tábhachtach ní hamháin do thionscadail taighde reatha ach maidir le deiseanna taighde amach anseo a fhiosrú.

Díreofar sa cheardlann ar na trí phríomhthéama seo:

1. Taighde logainmneacha.
2. Réitigh theicniúla do bhainistiú sonraí logainmníochta.
3. Réitigh léarscáilíochta, lena n-áirítear (i) Sioncrónú sonraí logainmníochta idir bunachair (ii) Sonraí logainmníochta dátheangacha/ilteangacha.

Is é Fiontar forbróir agus bainisteoir logainm.ie, Bunachar Logainmneacha na hÉireann. Tá comhthéacs idirnáisiúnta na ceardlainne tábhachtach dúinn sa mhéid go dtugann sé an deis dúinn nuálaíocht agus forbairtí a fhiosrú agus smaointe agus saineolas a mhalartú. Tugadh cuireadh do na cainteoirí páipéir a thabhairt mar gheall ar a saothar comhlántach agus ilchineálach sna trí phríomhthéama atá luaite thuas.

D'eagraigh Fiontar, Ollscoil Chathair Bhaile Átha Cliath, an cheardlann i gcomhar leis an mBrainse Logainmneacha, An Roinn Ealaíon, Oidhreachta agus Gaeltachta.

Bunaíodh Fiontar sa bhliain 1993 mar aonad lán-Ghaeilge in DCU i mbun teagaisc agus taighde. Faoi láthair tá cláir bhunchéime agus iarchéime ag Fiontar[1], agus tá ceithre cinn de thionscadail taighde ar bun ann[2] sna daonnachtaí digiteacha trí mheán na Gaeilge, chomh maith le clár intéirneachta do chéimithe. Bunaíodh an Brainse Logainmneacha sa bhliain 1956 agus bhí sé ina chuid den tSuirbhéireacht Ordanáis go dtí 1999 tráth ar aistríodh é chuig an Roinn Ealaíon, Oidhreachta, Gaeltachta agus Oileán, nó an Roinn Ealaíon, Oidhreachta agus Gaeltachta mar a thugtar air anois.

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1 BA Gnó agus Gaeilge; BA Gaeilge agus Iriseoireacht; MSc i nGnó agus i dTeicneolaíocht an Eolais.

2 Bunachar Logainmneacha na hÉireann (www.logainm.ie); Bunachar Náisiúnta Téarmaíochta don Ghaeilge (www.focal.ie); Beathaisnéisí Gaeilge (www.ainm.ie); Tionscadal LEX – soláthar téarmaíochta Gaeilge d'institiúidí an AE agus forbairt téarmaíochta dlí don Ghaeilge.

Déanann an Brainse Logainmneacha taighde ar logainmneacha na hÉireann, i gcomhar leis an gCoimisiún Logainmneacha, d'fhonn leaganacha cearta Gaeilge a chur ar fáil le húsáid go hoifigiúil agus go poiblí.

Sa bhliain 2007 a tionscnaíodh an comhoibriú idir an Brainse Logainmneacha agus Fiontar, DCU, chun Bunachar Logainmneacha na hÉireann (logainm.ie) a chruthú. Is suíomh Gréasáin poiblí é logainm.ie a chuireann leaganacha oifigiúla Gaeilge ar fáil le haghaidh tuairim is 100,000 áit ar fud na tíre. Is áis phoiblí é go príomha atá dírithe ar iriseoirí agus ar aistritheoirí, ar mhic léinn agus ar mhúinteoirí, ar staraithe agus ar thaighdeoirí. Seo roinnt áiseanna eile atá ar fáil ar an suíomh Gréasáin:

- Áis chun liostaí logainmneacha a aistriú go Gaeilge, agus ó Ghaeilge go Béarla;
- Comhaid fuaime mar theoir d'fhuaimniú logainmneacha;
- Taifid chartlainne;
- Áiseanna léarscáilíochta;
- Acmhainní oideachais agus eolais;

Ó seoladh an suíomh sa bhliain 2008, bhí 5.8 milliún amas ar logainm.ie, tugadh cuairt ar an suíomh 722,102 uair ag 358,702 cuairteoir uathúil; bhuaigh an suíomh An Séala Eorpach Teanga sa bhliain 2010 agus ba bhuaiteoir catagóire é ag Gradaim ríomh-Rialtais na hÉireann 2011. Is comhpháirtíocht nuálach é logainm.ie idir roinn ollscoile agus seirbhís speisialaithe rialtais ag tabhairt le chéile saineolas ar logainmneacha an Bhrainse Logainmneacha agus saineolas teicniúil, bainistíochta agus teangeolaíoch atá ag Fiontar.

I bhfianaise ról logainm.ie i mbainistiú agus soláthar rochtana ar logainmneacha Gaeilge, is téama tábhachtach é bainistiú agus foilsiú sonraí logainmneacha ar líne do Fiontar agus don Bhrainse Logainmneacha Tá súil againn go spreagfaidh an malartú smaointe ag an gcomhdháil seo (agus tar éis na comhdhála, trí mheán an nImeachtaí) díospóireachtaí nua (agus b'fhéidir comhpháirtíochtaí fiú) sa réimse spreagúil seo.

An coiste eagrúcháin
Baile Átha Cliath, Lúnasa 2012

Foreword

Fiontar, Dublin City University, is honoured to host this international Placenames[1] Workshop 2012. The theme of the workshop is the *management and dissemination of toponymic data online.*

The aim of this workshop is to create a forum to present current innovative perspectives of researchers and industrial practitioners in the area of toponymy. It will also provide a platform on which to forge links and partnerships between international researchers and industry practitioners. This will be significant not only for current research projects but for investigation of future research opportunities.

The workshop will focus on three principal themes:

1. Placenames research.
2. Technical solutions for the management of toponymic data.
3. Mapping solutions, including (i) Synchronization of toponymic data between databases and (ii) Bilingual/multilingual toponymic data.

Fiontar is the developer and manager of logainm.ie, the Placenames Database of Ireland. The international context of this workshop is particularly important to us as an opportunity to investigate innovations and developments and exchange ideas and expertise.

Speakers were invited to give papers on the basis of their complementary and diverse contributions to the three main areas above. The workshop was organized by Fiontar, Dublin City University (DCU) in collaboration with the Placenames Branch, Department of Arts, Heritage and the Gaeltacht.

Fiontar was established in DCU in 1993 as an Irish-medium teaching and research unit. It currently offers undergraduate and graduate programmes[2], and runs four research projects[3] in digital humanities in the Irish language, as well as an internship programme for graduates.

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1 A decision was made to use the form 'placename' (as opposed to 'place name' and/or 'place-name') throughout the proceedings for consistency and as this is the form used by the Placenames Branch, Department of Arts, Heritage and the Gaeltacht.

2 BA Gnó agus Gaeilge (BA Business and Irish); BA Gaeilge agus Iriseoireacht (BA Irish and Journalism); MSc i nGnó agus i dTeicneolaíocht an Eolais (MSc in Business and Information Technology).

3 The Placenames Database of Ireland (www.logainm.ie); The National Terminology Database for Irish (www.focal.ie); Irish-Language Biographies (www.ainm.ie); LEX Project – provision of Irish-language terminology to the EU institutions and development of a database of legal terminology in Irish.

The Placenames Branch was established in 1956 and was attached to the Ordnance Survey until 1999 when it was moved to the Department of Arts, Heritage, Gaeltacht and the Islands, now the Department of Arts, Heritage and the Gaeltacht. Research into the placenames of Ireland is undertaken by the Placenames Branch, in cooperation with An Coimisiún Logainmneacha (The Placenames Commission), in order to establish the correct Irish-language versions of those names for official and public use. In 2007, the Placenames Branch entered into collaboration with Fiontar, DCU, to create the Placenames Database of Ireland (logainm.ie). Logainm.ie is a public website which provides the official Irish-language versions of approximately 100,000 places throughout the country. It is a public resource primarily aimed at journalists and translators, students and teachers, historians and researchers. The website also contains the following features:

- A facility to translate lists of placenames to and from Irish;
- Audio guide to the pronunciation of placenames;
- Archival records;
- Mapping tools;
- Educational and information resources.

Logainm.ie has attracted 5.8 million hits, constituting 722,102 visits from 358,702 unique visitors since its launch in 2008; it won the European Language Label in 2010 and was a category winner at the 2011 Irish eGovernment Awards. Logainm.ie represents an innovative partnership between a university department and a specialized government service, combining the placenames expertise of the Placenames Branch with the technical, managerial and linguistic expertise of Fiontar.

Given the role that logainm.ie plays in managing and providing access to Irish-language placenames, the theme of management and dissemination of toponymic data online is an important one to Fiontar and the Placenames Branch. We hope that the exchange of ideas at this conference (and, later, through the Proceedings) will lead to new debates (and, perhaps, new partnerships) in this exciting area.

The organising committee
Dublin, August 2012

Buíochas

Ba mhaith linn buíochas a ghabháil leis an gcoiste eagrúcháin agus le rannpháirtithe na ceardlainne, agus go háirithe leis na húdair, ar foilsíodh a bpáipéir anseo. Aithnímid freisin an cúnamh airgeadais a fuarthas ó Oifig an Leas-Uachtaráin don Taighde agus Nuálaíocht in DCU agus ó Fáilte Ireland. Is é an Roinn Ealaíon, Oidhreachta agus Gaeltachta príomh-mhaoinitheoir an tionscadail.

An coiste eagrúcháin:

Dr Úna Bhreathnach – *Bainisteoir Eagarthóireachta, Fiontar DCU*
Dr Brian Ó Raghallaigh – *Bainisteoir Teicniúil, Fiontar DCU*
Mairéad Nic Lochlainn – *Eagarthóir Taighde, Fiontar DCU*
Edel Ní Mhuirthile – *Riarthóir Tionscadal Taighde, Fiontar DCU*
Dónall Mac Giolla Easpaig – *An Príomhoifigeach Logainmneacha, An Roinn Ealaíon, Oidhreachta agus Gaeltachta*
Dr Pádraig Ó Cearbhaill – *Ardoifigeach Logainmneacha, An Roinn Ealaíon, Oidhreachta agus Gaeltachta*

Chabhraigh baill eile foirne in Fiontar agus sa Bhrainse Logainmneacha le hullmhú na ceardlainne agus na n-imeachtaí.

Acknowledgements

We would like to thank all the workshop organisers and participants, and particularly the authors published here. The financial assistance of the Office of the Vice-President for Research and Innovation in DCU and Fáilte Ireland is also acknowledged. The Department of Arts, Heritage and the Gaeltacht is the principal project funder. The members of the organising committee were:

Dr Úna Bhreathnach – *Editorial Manager, Fiontar DCU*
Dr Brian Ó Raghallaigh – *Technical Manager, Fiontar DCU*
Mairéad Nic Lochlainn – *Research Editor, Fiontar DCU*
Edel Ní Mhuirthile – *Research Projects Administrator, Fiontar DCU*
Dónall Mac Giolla Easpaig – *Chief Placenames Officer, Department of Arts, Heritage and the Gaeltacht*
Dr Pádraig Ó Cearbhaill – *Senior Placenames Officer, Department of Arts, Heritage and the Gaeltacht*

Other staff members in Fiontar and the Placenames Branch also assisted with the preparation of the workshop and the proceedings.

Keynote Speaker

Aoichainteoir

Geographical Names: a great global resource that should be clear to users and easily accessible

Helen Kerfoot

Chair, United Nations Group of Experts (2002-2012) and
Emeritus Scientist, Natural Resources Canada

Abstract. Placenames or geographical names have over the centuries been key designators of locations, important in recording discovery or conquest, bearing witness to language and culture, and linking communities to the world around. From the days of gazetteer lists to the era of sophisticated online databases, the concept of identifying our landscape and seascape has changed little, but data has burgeoned and the requirement to access it has increased exponentially.

Whether we serve the needs of university researchers, individual genealogists, commercial enterprises, government departments or those providing humanitarian aid, our databases must be readily available, easily searchable and capable of addressing the needs of a wide variety of users. Today names are entry points to access other geo-referenced and knowledge-based data, and so increasingly compatibility is advantageous. Furthermore, the placenames data included should be clear in its presentation and its metadata. For instance, a user should know whether the names (and perhaps associated fields of data) are authorized; a time period associated with a name is often sought; and variant names, romanized forms and exonyms are most useful when cross-referenced to authorized endonyms.

The United Nations Group of Experts on Geographical Names (UNGEGN) has been working since 1960 to encourage the national standardization of geographical names as the basis for international standardization. Over the past 50 years many countries have established national names authorities and national geographical names databases. For example, Canada's database was created from card records in the 1980s and was the first national database searchable on the internet. Many countries, however, are still in the very rudimentary stages of compiling a national toponymy for general use. At the world level, UNGEGN is in the process of building a multilingual, multiscriptual database of names of countries, capitals and cities with a population over 100,000, including audio files of city endonyms.

What are the needs for the future? Who are the users of the data and how do they search, sort, download and combine the placenames data with other information? Some names databases show the placenames in association with a detailed map interface, and some countries have started digitally recording the physical extents of named features. In future we would, I am sure, like to access many types of data, images, video and sound files that are associated with a particular placename, be it a street, town or natural feature.

Keywords: placenames; names databases; UNGEGN; national names authorities

Introduction

Today we are surrounded, and perhaps overwhelmed, by the vast amount of information available to us. Whether we speak of the more traditional sources (books, newspapers, television), or advertising, the internet, the social media, and so on, the tide of information and proliferation of data has the potential to provide a far richer and more accessible world than we could have imagined but one or two decades ago. Many aspects of life are altered by such global access, and the concept of 'place' and the geographical names (or placenames).[1]

Cartographers will be familiar with depictions of parts of the globe lacking the identification of places by name: for instance, in stick charts of curved palm fronds and shells depicting the ocean swells and islands of today's Marshall Islands; or the carved driftwood maps created to represent the rugged coastline of Kalaallit Nunaat (Greenland); or manuscript and hand-coloured maps of past centuries (although some did help by adding reference numbers for places). No doubt the creators of these maps and charts could interpret their surroundings, but for other users the lack of toponyms was (and still is) a distinct barrier to communication. Today, presentations of air photos, satellite images and even some thematic maps may lack names which provide a valuable key to discussion and interpretation of the data displayed.

Over the centuries, names of places have been important to explorers and those recording their travels – from the lists of Ptolemy in his *Geographia* volumes (Kadmon 1998) to the names of financial backers scattered over northern Canada by the British explorers seeking, initially, a passage to the Orient. Simple lists of placenames developed into gazetteers – either as geographical names indexes to atlases, or as stand-alone lists of geographical names within a region – with entries arranged systematically (usually alphabetically) and including, at least, information on the type of feature and its location. More elaborate world gazetteers with further detailed information were published, and particularly through the twentieth century many governments or national names authorities produced gazetteers of their authorized or standardized endonyms. Although many countries have now progressed to sophisticated names databases, with many data fields, multiple languages and online access, for others their names records are not readily available to the public, as card records, outdated national maps, no national names authority and lack of a national gazetteer are unfortunately still a reality.

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1 *The Glossary* (2002) of the UN Group of Experts on Geographical Names defines a *geographical name* as a name applied to a feature on Earth; a *toponym* as a name applied to a feature on Earth, and also beyond to a feature in other parts of the planetary system. *Placename* is used synonymously with toponym, but in some jurisdictions is limited in meaning to designate only populated places. However, ISO 19112 includes labels and codes (e.g. postcodes) as geographical names.

Geographical names continue to bear witness to language and culture, to link communities to the world around, and to form an important part of our reference system. We continue to identify aspects of our landscapes and seascapes, but the need to access this data in a timely way has increased exponentially. Now we need the names not just for their own value as identifiers, but also to help us gain access to other information. Toponyms are keys to querying data on the web[2] and to accessing other geo-referenced knowledge. We have a potentially great resource in the world's geographical names – considered by many countries as one of their 'national treasures', and yet by others still so undervalued and unappreciated.

Data users – needs and expectations for accurate data

Today's users of names data may be researching the plethora of names from the perspective of academic studies, they may just be curious searchers, or they may wish to download data for further use in other endeavours. In brief, we can distinguish university researchers, individuals (particularly genealogists), commercial enterprises, those providing humanitarian aid, and so on.[3]

The varied use of the data and the different mandates of organizations generating data make the question of available/useful data fields a complex one. At the same time organizations (particular government departments) have 'agonized' over withholding data or data fields from online access, because of insufficient research to verify background, origins or etymological information, or issues of privacy laws that could be violated. However, all database users have common expectations: they expect the names data to be accurate, reliable and up to date; they expect to understand the information presented to them; and they want to be able to access the data as easily and as freely as possible.

This takes us to the question of authoritative versus less authoritative data and the involvement of the United Nations in this field of endeavour with a view to improving world communication.

United Nations Group of Experts on Geographical Names (UNGEGN)

In the late 1940s, the United Nations recognized the problems involved with the use of geographical names, particularly in communicating through maps created by the UN cartographic office. What names were appropriate? How should they be spelled? In what writing system should they be given? To help respond to these questions, Resolution 715 A (XXVII) of the UN Economic and Social Council was passed in 1959 to establish a group of experts to address the issues.

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2 All web addresses cited in the text were accessed on March 25, 2012.

3 My enquiries to various government online toponymic databases indicated a minimal knowledge of the users (except where registration is required for downloading) and little information on the re-use of the data.

The first meeting was held in 1960 and, ever since, the United Nations Group of Experts on Geographical Names has been advocating the responsibility of each country for its own geographical names – their collection, storage, administration, dissemination and, if applicable, romanization through a scientific conversion system.[4]

As a cornerstone of its work, UNGEGN promotes names as authorized by each country. In many cases the national mapping or military mapping agencies established by law have the responsibility for the spelling of names on official maps. However, a national names authority, independent from the users of names, is recommended, as an independent body can make recommendations or decisions on geographical names for uses other than purely national maps and charts. Advisors on such subjects as language issues, history, indigenous culture and landform interpretation can provide valuable assistance in the decision-making process.

Although in 1863 Norway passed an act that made provision for updating the spelling of farm names, it was not until 1890 that the first national names authority of the world was established (UNGEGN 2006:107-15). The United States Board on Geographic Names (USBGN) was created by Executive Order of the President, Benjamin Harrison, and today the decisions of the board are binding for all departments and agencies of the federal government. Soon after, in 1897, Canada issued an Order of the Privy Council to establish a names board, as exploration, mining and settlement spread west across the country. Other national names authorities followed: Denmark (1910), Poland (1934), Iceland (1935), Ireland and New Zealand (1947). More countries saw the value of authorizing the spelling of their geographical names and currently, in 2012, we are aware of nearly 80 national names authorities. Some, particularly in Africa, although they exist in legal terms, are unfortunately not fully functioning and so the countries do not keep up with recording locally used names and name changes.

UNGEGN maintains a record of all national names authorities, and posts this on its website in map and table form (http://unstats.un.org/unsd/geoinfo/UNGEGN/nna.html). The type of names authority varies from country to country, depending on the structure of government, the size of territory, the distribution of population and languages, and so on. In basic terms, the model may use: a centralized approach (possibly with advisors or sub-committees), as for example in Estonia, Hungary or Madagascar; a decentralized approach, where decision-making for national use is at the regional level, as in Australia, Canada and Malaysia; or a combination of the two, creating a two-tier decision-making process, as in the USA and South Africa. As noted in the geographical naming principles of British Columbia, Canada (2000), "co-ordination of geographical naming by one authority is… an essential element in maintaining an effective system in which physical features and populated places can be easily and accurately identified".

4 In furthering a sound approach to using nationally recognized toponyms, by summer 2012 UNGEGN will have met 27 times and ten Conferences on the Standardization of Geographical Names will have been convened (every five years) since 1967.

British Columbia, as with other provinces and territories and the federal government of Canada, uses only 'official' names[5] on official government maps.

In encouraging the distribution and use of nationally authorized placenames, UNGEGN maintains a web portal to connect to both national geographical names authorities and searchable (web-based) national geographical names databases. At the time of writing, 22 countries [6] have links to at least one access point for their authorized names with a variety of associated fields of information (e.g. New Zealand: 22 data fields). In addition some countries have web-accessible Excel listings (gazetteers) of their toponyms (e.g. Nepal), and many more have produced paper-copy gazetteers for general reference purposes (e.g. Cyprus).

To address regional and world issues of today, national borders must be minimized to allow for synthesis of data. For this reason, particularly through the efforts of New Zealand and Australia, UNGEGN has initiated a cooperative regional gazetteer and map project to provide endonyms as used by the governments of the countries of the South-East Asia and South-West Pacific region.[7] In responding to natural disasters and providing humanitarian aid, cross-boundary files provide significant time-saving and potentially life-saving data. Similar concepts to produce amalgamated geographical names reference data are under consideration for countries of West Africa, and also for countries of the Arabic Division of UNGEGN. Using a different approach, the EuroGeoNames project has networked national toponymic databases using web services technology. Maintenance of the datasets continues to rest with the individual European countries, while users can access authorized multinational data with common standards through a central server. At this time 14 countries are connected to create this service, which is now provided through EuroGeographics. This project has the added bonus to users of identifying cross-border features and cross-referencing many exonyms of the region.

UNGEGN World Geographical Names Database

At the world level, UNGEGN's World Geographical Names Database on the web (http://unstats.un.org/unsd/geoinfo/UNGEGN) is being hosted by the UNGEGN Secretariat in New York. In its first phase, this is designed to include the names of countries and capital cities in the six official languages of the United Nations, as well as in the language(s) of the country itself, plus the

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5 The words 'authorized', 'official' and 'standardized' names/toponyms may be used almost interchangeably to mean 'prescribed by an appropriate authority'. Usage may vary between countries, however, and for some there are definite and clear differences. For instance, Poland (Zych 2011: 5-6) distinguishes between 'official' geographical names applied, for example, to administrative units, whereas 'standardized' names would apply, for instance, to minority language names and names for features outside Poland.

6 Australia, Bulgaria, Canada, Croatia, Denmark, Estonia, Finland, France, Hungary, Ireland, Japan, Mexico, New Zealand, Norway, Poland, Qatar, South Africa, Spain, Sweden, United Kingdom, United States of America.

7 Through data gathered by the countries of the Asia South-East and Pacific South-West Division of UNGEGN.

endonymic forms of the names of cities with a population over 100,000. Wherever possible, each country is providing audio pronunciation files for the names of their cities, for attachment to individual entries. Queries are made through a list of the 193 UN member countries or through a map interface. The results are then displayed on the map and by country in multilingual/multiscriptual tables.[8] (See figures 1, 2 and 3 below.) Individuals can arrange with the Secretariat to use this data in other projects. To address the needs of users, it is hoped that further query features will be designed in the near future.

Figures 1, 2 and 3 are based on screen captures from the UNGEGN World Geographical Names Database (no copyright release is needed).

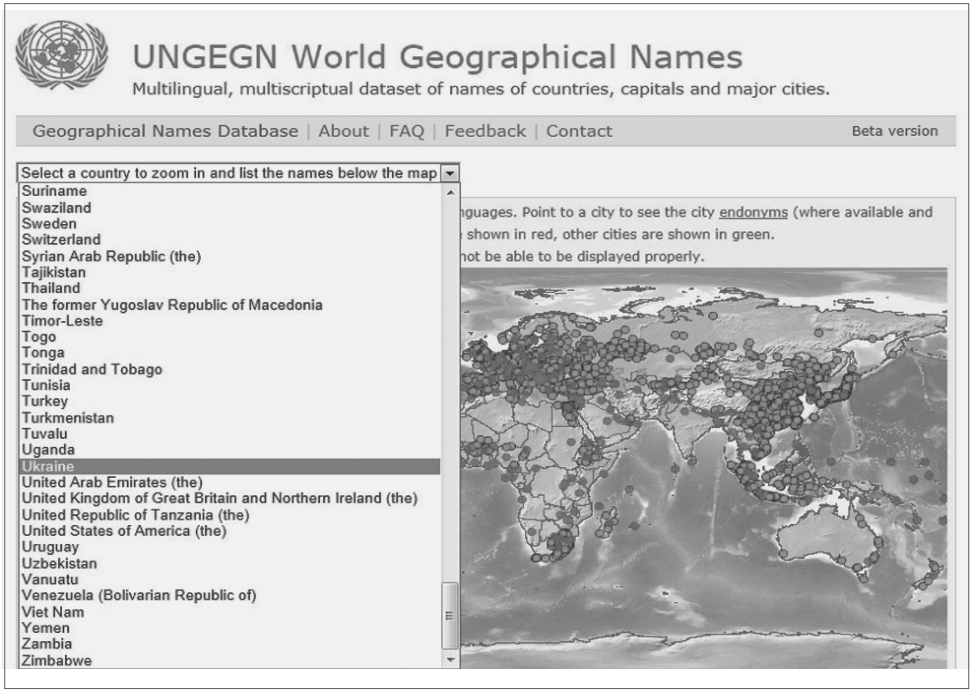
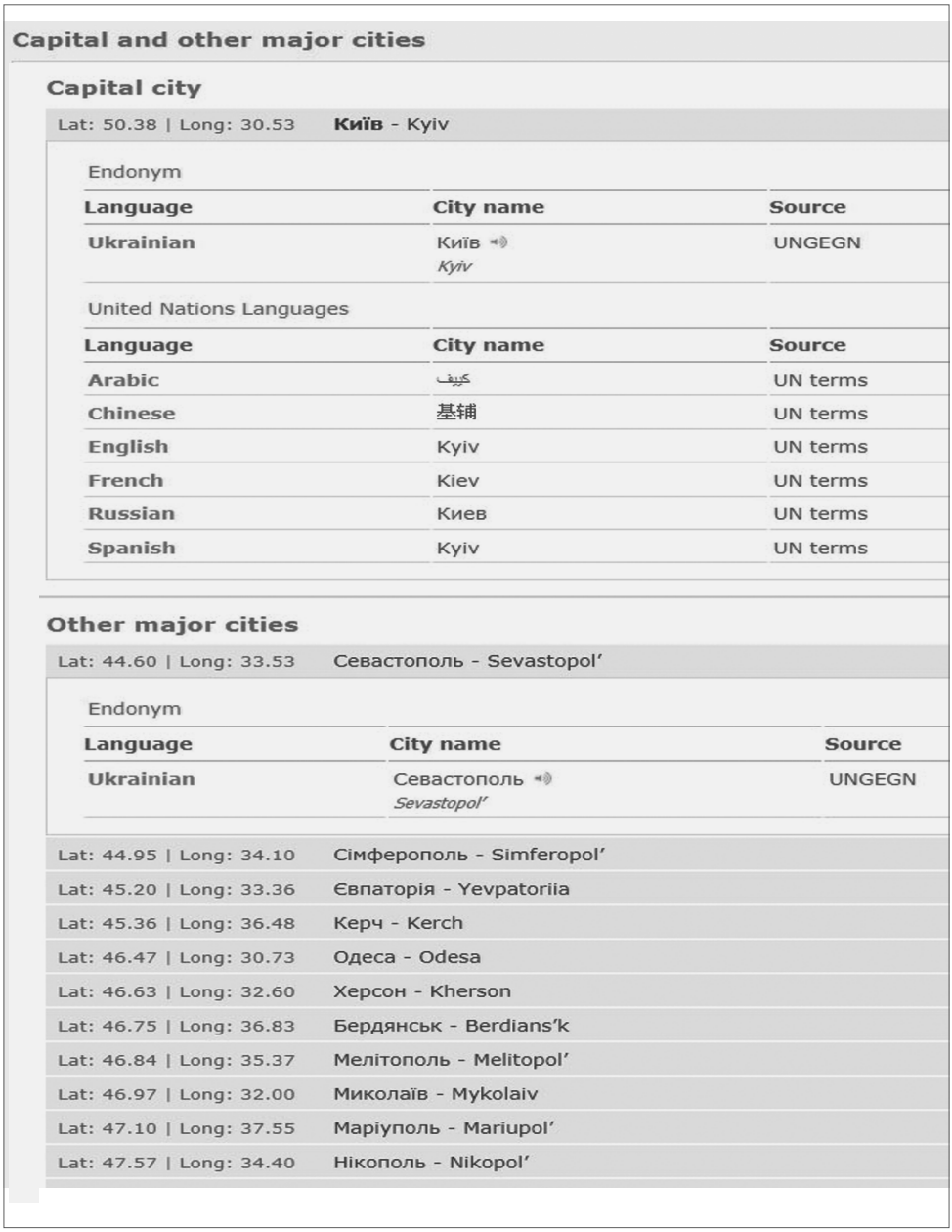


Figure 1: UNGEGN World Geographical Names Database: accessed by drop-down menu of country names or by interactive world map

8 The database, following resolution IX/6 of the Ninth UN Conference on the Standardization of Geographical Names, contains over 2,700 endonyms and UN language forms for country names, over 3,100 city endonyms and 1,200 names as used in UN languages. Sound files are available for over 800 cities from more than 30 countries. Some 1,500 romanized names, using some 40 romanization systems, are included (UNGEGN Secretariat 2011).

Figure 2: UNGEGN World Geographical Names Database: example, Ukraine; interactive map and table showing multilingual/multiscriptual names for the country



Capital and other major cities

Capital city

Lat: 50.38 | Long: 30.53 **Київ** - Kyiv

Endonym

Language	City name	Source
Ukrainian	Київ *Kyiv*	UNGEGN

United Nations Languages

Language	City name	Source
Arabic	كييف	UN terms
Chinese	基辅	UN terms
English	Kyiv	UN terms
French	Kiev	UN terms
Russian	Киев	UN terms
Spanish	Kyiv	UN terms

Other major cities

Lat: 44.60 | Long: 33.53 Севастополь - Sevastopol'

Endonym

Language	City name	Source
Ukrainian	Севастополь *Sevastopol'*	UNGEGN

Lat: 44.95 | Long: 34.10	Сімферополь - Simferopol'
Lat: 45.20 | Long: 33.36	Євпаторія - Yevpatoriia
Lat: 45.36 | Long: 36.48	Керч - Kerch
Lat: 46.47 | Long: 30.73	Одеса - Odesa
Lat: 46.63 | Long: 32.60	Херсон - Kherson
Lat: 46.75 | Long: 36.83	Бердянськ - Berdians'k
Lat: 46.84 | Long: 35.37	Мелітополь - Melitopol'
Lat: 46.97 | Long: 32.00	Миколаїв - Mykolaiv
Lat: 47.10 | Long: 37.55	Маріуполь - Mariupol'
Lat: 47.57 | Long: 34.40	Нікополь - Nikopol'

Figure 3: UNGEGN World Geographical Names Database: example, Ukraine; capital city, and partial table of major city endonyms, with romanization, pronunciation and latitude/longitude

Re-use of nationally authorized data… and unauthorized data

Although I have been discussing the preferred source of data in the eyes of UNGEGN, which is the authorized national databases, there are many other datasets available on the web. How do users know the source of the information, the degree of its reliability, or the timeframe of the data supplied? The answers to these questions vary widely and I cite only a few examples.

Some online databases are carefully documented and presented. For instance, the Northern Ireland Place-Name Project (http://www.placenamesni.org) carefully explains its research on the origin and meaning of the placenames of Northern Ireland since 1967 and its cooperation with colleagues in Dublin. A search will bring up a table of Place Name ID, Place Name, Type, Parish 1851, Parish 1961, Catholic Parish, Barony and County. However, considering the importance of geo-referencing in a contemporary context, it seems strange that no coordinate values are readily displayed – although one can search maps for townland names.

Among websites aimed at genealogists, the JewishGen Gazetteer provides names of one million localities in 54 countries (http://www.jewishgen.org/communities/loctown.asp). Querying is easy: searching by country or region; using exact spelling; names starting with or containing certain character strings; or 'sounds like'. The table of places returned contains location, feature type, coordinates, country, distance/direction from a reference point; a link to display all places with a ten-mile radius; and the ability to view the information on a variety of commercial and customized maps. Furthermore, the website clearly states that data is based on the US Board on Geographic Names databases (i.e. GNS and GNIS).

A smaller website (1,400 entries), primarily for genealogists, provides the Doukhobor Gazetteer (http://www.doukhobor.org/gazetteer-intro.html), searchable by placename, including common misspellings. This site provides for alphabetical or area searches for Doukhobor-associated names in ten countries. Much research has been undertaken to trace historical data, but little information is provided about the data sources of individual names.

Easy access to data – does this mean free?

At the UN, China has reported on data accessibility through their geographical names services, where over 20,000 new names are added each year and four levels of data (county, city, province and whole country) are made widely available through websites, telephone hotlines and publicly-accessible touch screens across the country (Dai 2006).

The question of whether geographical names data should be free for use and re-use, or available for a price and with licensing for re-use in derived products, is an ongoing issue for administrators of a number of national placenames databases, particularly in Europe. However, change may be in sight. In January 2011, the National Land Survey of Finland (NLS) opened up some datasets, including all Geographic Names Register (GNR) products, the GNR Web Feature Service, and small-scale (1:1 million and 1:4.5 million) General Map products for use free of charge. The aim is "to promote the use of spatial data as well as the creation of new applications and innovations" (Leskinen 2011). It was considered by the NLS that "availability of free and easily-accessible

authorised digital geographic names data is also seen as a key driver in encouraging the use of nationally standardised names". After the first year Leskinen (2012) reported 4,119 downloads of names data files, 70 registrations for WFS service, and 7,254 downloads of small-scale map files. In terms of users, the following information was provided: private use 56%; use inside organizations 13%; use in education 9%; use in research 7%. Even these early results are certainly encouraging for those considering making their national geographical names records more easily accessible to the public.

In other parts of the world, placename databases may be accessible without charge. In the USA, access, use and re-use of GNIS data is free and thousands of websites incorporate the data. In some countries, including Canada, there was a charge for data files in the early days of digital data availability, and licences were necessary for re-use of names data. Now, as a fundamental layer of the country's spatial data infrastructure, the official names records in Canada are available without charge. GeoBase is a set of geographical data layers making up the framework of Canadian Geospatial Data Infrastructure (CGDI) and made available on the web (http://www.geobase.ca/geobase/en/index.html) through collaborative efforts of federal, provincial and territorial governments. Without cost or use restriction, users can access a common, up-to-date and maintained base of quality geospatial data for all Canada. Geographical names of populated places and features, as recorded on the Canadian Geographical Names Data Base (CGNDB), constitute one of the data layers of CGDI.

During 2010, nearly 80,000 visitors used the site, with more than 11,600 new users registering (mandatory procedure) to download data, up from 10,500 in the previous year (Trottier 2011). 218 data users completed a voluntary questionnaire about their experience with the data. Although relatively little information in Trottier's report applies to the toponymy layer alone, a few conclusions about the data uses and users are of general interest:

- *Clients*: academia, personal use, private sector and, a distant fourth, federal government.
- *How the data is used:* actual projects, current operations, personal use. Analysis of this information indicated that the main uses were: cartographic production, research, graphic representation, planning, teaching, environmental issues.
- *Themes of GeoBase most used:* of the themes offered, toponymy was used by 63 of the 218 respondents to the questionnaire (compared to 113 of 352 the previous year). Digital elevation data, road networks and satellite imagery were in the highest demand.

From the early days of GeoBase (November 2003), geographical names have been available on the basis of 1:50,000 National Topographic System (NTS) map sheets. In response to users' requests, since April 2011 geographical names data has been available for download on a provincial/territorial basis (for 11 of the 13 jurisdictions), with datasets available in ESRI Shapefile, GML and KML formats. Seven text files of official names (previously sold to the public) are now available for free: All Canada; Canada by region (3); hydrographic features; populated places; and terrain features. (400,000 official name records are stored in the CGNDB; files provide the name and at least nine attributes referring to location and type of feature, while online searches give users access to a larger number of attributes.)

'Stories' of use of geographical names data

Suppliers of data always look for 'stories' of interesting use of their information, often to support and prove the value of their projects. Certainly Canada's GeoBase mentions a number of interesting uses, from environmental issues, to teaching projects, to indigenous communities uploading data for strategic planning (http://geoconnections.nrcan.gc.ca/12). In developing the EuroGeoNames project, cases of usage were studied (from hotel reservations to delivery services) to help find the way forward. Those involved with linguistic and historical aspects of names will no doubt have other usages to explore.

One interesting graphic use of geographical names data, both statistical and cartographic, is the analysis of generic terms. In the 1980s Jon Campbell of the USGS was analyzing this data for the USA (Campbell 1991), but today more sophisticated mapping techniques allow elegant visual interpretations. Mapping generic terms for streams in the contiguous United States, Watkins (2011) shows the pattern of use of 13 generic terms *(branch, run, fork, brook, kill, stream, bayou, swamp, slough, wash, cañada, arroyo, rio)* reflecting English, Dutch, French and Spanish influences on naming practices across the country, and enables analysis of the reasons behind such distributions. Watkins' imaginative presentation of US stream generics led to a similar graphic portrayal of river generics in Britain (Cheshire 2011), showing clearly the regional distribution of *river, canal, afon, brook, burn* and *water* across England, Wales and Scotland. Web portrayal of this data elicited public feedback, and criticism of missing generic terms *(e.g. beck, gill/ghyll, dyke, eau)*. It should be emphasized that both these projects working with large files of toponyms made use of the 'official' nomenclature available – from the US GNIS and from the Ordnance Survey Strategi dataset. Questions were raised by web users about including unofficial community-gathered names for such projects. Although this might produce other locally used and interesting generic terms, the work and time involved in gathering data would be vast.

Volunteer geographical information

This brings us to the consideration of unofficial names, as volunteered through crowd sourcing, which is of great interest (and concern) to toponymic administrators. Recording of placenames as used locally has been, and is, central to the values of UNGEGN. It has been part of the process followed by mapping agencies when collecting or verifying field data. Linguists, too, are involved with gathering local information as the basis of studies of, for instance, dialects and minority languages. However, whereas language experts are looking for the widest range of data possible, most mapping and charting agencies have a policy of using only officially recognized names on their products,[9] so some method of authentication of the locally collected data has been incorporated into the production process.

The authorization of names data can be a lengthy process, and when addressing emergency situations and providing humanitarian aid we realize that time does not allow for the luxury of

9 For example, in New Zealand government agencies have a statutory requirement to use the official/authoritative names of features and places in official documents.

lengthy investigations. To address the needs of first responders to large-scale emergencies, local and most likely unverified names data can contribute considerably. This was shown to be the case with the magnitude 7 earthquake in Haiti on January 12, 2010. Response was hampered by the scarcity of street maps and street names (Bloch 2010:22). However, within hours volunteers using paper, mobile phones and the internet had provided user-generated maps that included street names, to help rescue efforts. Certainly accuracy was not guaranteed, but this information, combined with other data, guided emergency workers. Other efforts have been and are being made to incorporate local knowledge, previously unrecorded, into databases – preferably with the status of variant or unofficial names – to serve the needs of emergency services. Such examples include the Location Lingo Project undertaken in the United Kingdom in 2010 (UNGEGN-WG 2011), where individuals were encouraged to submit their own local names data to assist with rapid delivery of police, fire and ambulance services, and the Swedish project to collect urban names data from the public through an application created for mobile phones. In the second case, the National Land Survey of Sweden (the Swedish placenames authority) decided on this approach to supplement names data that is no longer replenished by their own surveys. The process was tested in Gävle in 2011 and an instructional film produced for names collectors (Torensjö 2011).

Volunteer geographical information (VGI), in particular crowd-sourcing of names, can certainly have its problems in areas of conflict. Names may be ephemeral and even the most enduring may seem to disappear overnight – sometimes too quickly, as noted by Colum Lynch (2012) with respect to street names in Syria, where crowd-sourced street names on Google Earth presupposed a regime change. Such swift action, with no steps of authorization, even brought criticism in the General Assembly of the United Nations. Similar confusion due to unauthorized street name changes in North African countries in the Arab Spring of 2011 underlined the value of the work of toponymic authorities.

Volunteered names information will, of course, continue to be vital in building national data collections, and in some cases will be incorporated into the authorization process. From a user's point of view, I believe the key aspects are to know the source of information (hence some idea of data authenticity and accuracy) and to know its status (official/unofficial/historical, etc.). With diminished budgets, increased government reliance on volunteered data will undoubtedly lead to departments, agencies and companies developing some sort of structured hierarchy of data providers, with increasing levels of reliability accorded to those who are most favoured and have proved the skill, knowledge and integrity of their data gathering.

Names collection activities are not easy to finance, so benefit from being part of larger projects. For instance, in Canada in recent years the collection of indigenous names has been undertaken as part of atlas projects. In northern Canada it has been associated with environmental studies for mining, a sea atlas project and the collection of community-based data. In eastern Canada, a Mi'kmaq (Mi'kmaw) atlas and website to document 13,000 years of history will include Mi'kmaq placenames for the Nova Scotia landscape. During 2011 and 2012, placenames from interviews with elders, databases and historical resources will be gathered. Cross-referencing with old maps, dictionaries, legends, geographical information and oral histories of land use will be undertaken, along with linguistic analysis of the names (Mi'kmaq 2011). This vision to raise public awareness

will produce a substantive resource document of Mi'kmaq presence and will provide a database of particular significance to First Nations.

Looking to the future

Today we have many examples of databases containing names of buildings, streets, land and water features and populated places. They include different fields of attribute data, and varying approaches to addressing temporal as well as spatial dimensions of the data. They contain information in different languages and writing systems and can be accessed through software with various language capabilities. It is unlikely that all these databases can be entirely compatible, but today no database should omit geo-referencing of the entries (to enable links to other data) and the authorization (or lack of it) for a name should be clear to users.

The United Nations, through UN Spatial Data Infrastructure initiatives, is developing a common gazetteer framework to enhance access to data in vulnerable regions of the world, to help find and select data held in government and UN systems and to improve integration and use of this data with volunteered information. Humanitarian aid coordinators at the United Nations are defining and trying to make available 'common operational datasets' to enhance rapid response measures. It is to be hoped, both for research purposes and to increase the potential of geographical names, that in future names databases will include audio files of pronunciation, and many will be enhanced by the inclusion of variant names (historical/exonyms/dialectal forms), images and/or video clips, maps and links to other data – and be readily available – to help us build and integrate the wealth of information contained in our ever-growing spheres of knowledge.

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Placenames Research: Panel 1

Taighde logainmmneacha: Painéal 1

Research into the Placenames of Wales: a brief overview

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Abstract. Gwyn Jones's presentation will cover four topics. Firstly, as background, there will be a short historical conspectus of the placenames of Wales. This will address both their linguistic origins and their non-linguistic typologies. The Welsh language and native Welsh culture will be seen to have played the central, and indeed the major, role in determining both the form and nature of Welsh placenames. However, other, more minor, influences should not be overlooked; in particular the influence of the English language, which still, like Welsh, plays an active role in the formulation of new placenames.

This leads on to the second topic: that of the standardization of placenames in Wales, an area in which Gwyn has been actively involved since the Welsh Language Board assumed statutory responsibility for standardization in 2001. So far as onomastics is concerned, standardization is a key area in Wales, more so than in many other countries. Gwyn will explain why, and will offer some examples which illustrate how fraught and contentious the question of standardization can become. He will also contend that questions of standardization cannot be satisfactorily resolved without meticulous research in each specific case, coupled with the formulation of general principles which are soundly based on common sense.

The third topic will be a short historical account of placenames research in Wales: *inter alia,* this will allude briefly to the part which new technologies have played in facilitating placenames research in recent years. It will become evident from this account that the research owes comparatively little to the initiative of Welsh institutions, but far more to the work of a few pioneering individuals.

Finally, we will look ahead, and consider what the future might hold for placenames research in Wales. Those areas which have not, as yet, been properly researched will be highlighted. But above all, a plea will be made for greater institutional involvement, both from the academic world and from the Welsh government, so that Wales can benefit from a greater commitment to onomastics research such as that which has obtained in other countries, notably in England and the Irish Republic.

Keywords: placenames; research; standardization; Wales; Welsh

I wish that I had a better tale to tell; nevertheless, I do believe that I can do some justice – in just twenty minutes or so – to the subject on which you have invited me to speak, namely, research into the placenames of Wales.

You will notice that I avoid the ambiguous term 'Welsh placenames'. We are not just dealing with placenames derived from the Welsh language, though the Welsh language and native Welsh culture have, of course, played the central, and indeed the major, role in determining both the form and nature of most of the placenames of Wales. However, other languages too have played their part: in particular the English language, which has been spoken in parts of Wales for over a thousand years, and which still – like Welsh – plays an active part in the formulation of new placenames.

You get an immediate feeling for the linguistic diversity of our placenames in the following succinct comment taken from the introduction to our standard reference work, *Dictionary of the Place-names of Wales:*

> Various aspects of Welsh history can be traced in certain place-names. For example, Celtic or Brittonic river names (Alun, Dyfrdwy); settlements reflecting occupation by Romans (Gwent, Powys), Irish (Gwynedd, Llyn), English (Shotton, Newport), Scandinavians (Swansea, Fishguard) and Normans (Malpas, Grosmont); 'new' settlements (Newborough, Newcastle Emlyn); transferred names (Montgomery, Denbigh); names whose connotations are religious (Betws, Bethesda and the llan names), industrial (Porthmadog, Morriston), agricultural (Cynheidre, Talwrn) and vacational (Fairbourne, Builth Wells).' (Owen and Morgan 2007:vii-viii)

There you have a snapshot of the historical context. The other, equally important, context has been provided by topography. There is nothing remarkable in that, except, of course, that most of the topographic elements themselves are unique to those areas in which Welsh is, or has been, spoken. Even a casual visitor to Wales will notice the profusion of placenames beginning with *llan:* for example, *Llanelli, Llandeilo, Llandrindod.* This element means 'church' in modern Welsh, and if you discover *llan* in a name, it nearly always refers to a particular church, though it originally just meant 'enclosure', and is in fact cognate to the English word *land.*

As is the case in most other countries, the key to the interpretation of placenames in Wales lies in discerning their historical context, and in identifying and understanding the fundamental elements in their formation. And so far as typology is concerned, the placenames of Wales are comparatively straightforward – whether their elements be derived from Welsh or its Brittonic parent, or from English (including Old English), or indeed from some other language. We may divide these names broadly into three classes:

1. Simplex names consisting of a single nominal element – which may or may not be preceded by the definite article *y(r)* as a determiner: for example, *Beddau, Bangor, Y Rhiw.*
2. Duplex names, usually consisting of two nominal elements, one of which may be deemed to be a headword and the other a qualifier. (Again a definite article may be added.For Welsh language names, the headword may be either the first or the secon element; in English, it is usually the second. Here again are some examples: *Abergele Blackwood, Caerffili, Cardiff, Oakdale, Rhos-y-bol, Swansea.*
3. Multiplex names consisting of three or more elements: *Llanddewi Brefi, Llanrhaeadr-ym-Mochnant, Rhosllannerchrugog.*

I estimate that around 15 per cent fall in the first category, around 10 per cent in the third, with the remaining 75 per cent or so falling into the second category of duplex names, which are by far the most numerous. Also, many of the multiplex names may themselves be reduced to an underlying duplex structure. This can be illustrated by analysing *Llanrhaeadr-ym-Mochnant*. In *Llanrhaeadr,* the headword is the first element *llan* 'church' and the qualifier *rhaeadr* 'waterfall': so we have a 'church of the waterfall'; *Llanrhaeadr* itself may then be taken as a headword which is qualified by *ym-Mochnant,* which indicates that the church in question is located in the medieval unit (or commote) of *Mochnant*, itself a duplex form with *nant*, the second element, being the headword. (see Owen and Morgan 2007:273). I trust that is sufficient background on the form, nature and origin of the placenames of Wales – sufficient, that is, to approach our central theme of research into these names. I was asked to mention any aspects of all this which are unique to Wales, and I will do just that – by moving from the particular to the general, as it were – in addressing first that area of research in which I myself have been heavily involved at the Welsh Language Board, namely, standardization.

The former Welsh Language Board was statutorily established in 1993 by the UK government of the day to promote and facilitate the use of Welsh, but it was not until October 2001 that it took over statutory responsibility for the standardization of placenames. This happened three years after devolution in Wales, when the Welsh government of the day decided to transfer the work of its Place Names [*sic*] Advisory Committee to the Board. We were asked, in fact, to provide expert and reliable advice on the 'correct' forms of placenames. I should mention that this former function of the Board now rests with the Office of the Welsh Language Commissioner, which took over many of the Board's functions when the latter was disbanded at the end of March 2012.

Most of our work in the area of standardization took place in partnership with Welsh local authorities, which have the last word on the form of placenames used within their constituencies. Overall, these partnerships were highly productive, with authorities usually prepared to take full account of our expert advice based on sound, and often exhaustive, research, and, in some cases, our advice was indeed enhanced by their local knowledge. However, there were a few notable exceptions: *vox populi* does not always correspond to *vox Dei* in the field of onomastics!

Before I proceed to some examples of standardization, I should also point out that placenames in Wales have been of much general – as opposed to academic – interest, especially since the early 1960s. The popularity of radio and television programmes, and newspaper columns, devoted to the subject is proof enough of that. However, the form of placenames used on road signs and on other public notices has also been the subject of some contention, beginning with the protests of *Cymdeithas yr Iaith Gymraeg* – the Welsh Language Society, a prominent lobbying group – again in the 1960s and early 1970s, which led to many road and traffic signs being defaced or destroyed, because the Welsh language had been ignored or marginalized on them. All this had a positive ending when the UK government agreed, in 1972, that bilingual road and traffic signs should be systematically introduced throughout Wales.

So why is standardization such an issue in Wales, when it is of hardly any import in England, for instance? It is not only because Wales is a bilingual country, but it is also a reflection of the fact that Welsh – unlike English, which has broadly historical orthography – has an orthography which is essentially phonemic, but which was not finally standardized until 1928.

So far as current usage is concerned, at least four categories of placenames may be delineated:

1. Places may have just one standardized Welsh form, used in Welsh and in English; these compose the majority: examples are *Aberystwyth, Llanelli.*
2. Places may have one English, but no Welsh, form, such as *Hanmer, Cross Keys.*
3. Places may have a standardized form used in Welsh, together with a similar form used in English which may, or may not, be regarded as standardized: examples include *Caerdydd/Cardiff; Llandaf/Llandaff; Merthyr Tudful/Merthyr Tydfil.* (Our advice on these is that if the difference between the standardized Welsh form and the other form consists of only one or two letters, the use of only the standardized form is recommended, unless the non-standard form could be classed as a recognized variation.)
4. Places may have distinct names in Welsh and in English: *Abertawe/Swansea; Y Trallwng/Welshpool.*

When we were asked for advice on the correct form of a particular placename, we conducted research into its history, and in this we were ably advised by Professor Hywel Wyn Owen, our leading living expert on the placenames of Wales and co-author of the magisterial *Dictionary of the Place-names of Wales* to which I have already referred. We then put forward our recommendations to the Board's Place-Names Standardization Team, which consisted of academics (including Professor Owen) and public servants (from the Government of Wales, the Ordnance Survey, the Board, and the Association of Welsh Translators and Interpreters). The team was chaired by Professor David Thorne, former Professor of Welsh at the University of Wales Lampeter, a specialist in Welsh linguistics and dialectology, and also an expert on the placenames of his native Carmarthenshire.

Broadly, our work in standardization can be divided into two parts: firstly, dealing with individual cases, or groups of difficult cases in one particular area, that were usually submitted in the first place by the relevant local authority; and, secondly, work of more general application. Our main achievement in the general category was the preparation of a bilingual document, *Guidelines for Standardizing Place-names in Wales*.[1] Broadly speaking, it consists of ten principles which guided all our decisions on standardization. To give you an idea of how these work, I will discuss three difficult cases on which the Board was asked to pronounce, and, in doing so, I will refer specifically to two of these guidelines. But first I should stress that the vast majority of the cases that we considered were comparatively straightforward and not at all contentious – once, that is, our background research had been completed. But as in other aspects of life, it is the contentious issues which are often the most interesting.

The first guideline states that the "current principles of standard Welsh orthography should be followed". Our first case relates to the spelling of *Cricieth*, a pleasant seaside town in the north-west of Wales. There was some concerted local opposition to spelling the name in this way: the opponents wanted to see two *c*'s medially, presumably to reflect the name's derivation from *crug* 'a mound' and caith 'captives'. On this, Professor Hywel Wyn Owen's advice to the Standardization Team was unequivocal. He said that the historical forms did not justify *–cc–* and, more importantly, the orthography no longer permitted it. And that too was our advice, even though the local authority, Gwynedd County Council, seems to have equivocated by allowing both forms without any apparent consistency. Local authorities have the final say, as you will recall.

The sixth guideline states that: "Pedantic or revived antiquarian forms… should be avoided unless there is sound evidence that they are in common use both locally and nationally." We were recently asked to advise on the Welsh language form of *Rockfield*, a small village near Monmouth on the border with England. The local authority had put up road signs which had on them both this form, and what it thought was the Welsh language equivalent, *Llanoronwy*. Further research on our part suggested that *Llanoronwy* had no historical basis, at least not as a name for that particular village, and had never been used as such either by speakers of English or speakers of Welsh. So, in this instance, we suggested that just *Rockfield* be used. However, in the case of *Caldicot*, a large village near Chepstow, again in Monmouthshire close to the English border, we also accepted the Welsh form *Cil-y-coed*, because, even though it was not well attested historically, Welsh speakers locally had begun to use it, and the local Welsh-medium primary school was, in fact, already called *Ysgol Cil-y-coed*.

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1 An archived copy may be accessed at http://www.webarchive.org.uk/wayback/archive/20111007222530/http://www.byig-wlb.org.uk/English/publications/Publications/20101027%20S%20DG%20Guidelines%20for%20Standardizing%20Place-names%20in%20Wales.pdf

I will now speak briefly about the history of placenames research in Wales. In this, I am afraid that we are somewhat lacking – not in the quality of the academic work undertaken, but in its quantity – in particular in comparison with England. Allow me to illustrate. The English Place-Name Society, for which I have the highest regard, was founded in 1923; we had to wait until last year for a similar society to be founded in Wales, and that society is not yet properly resourced, nor does it yet have the material backing of any of our academic institutions. Ekwall's *Concise Oxford Dictionary of English Place Names* was first published in 1936; we had to wait until 2007 for our equivalent tome to emerge.

Nevertheless, scholarly work does extend back to the late nineteenth century, and begins with the work of Syr John Rhŷs, first Professor of Celtic at Oxford University, and Egerton Phillimore, an eccentric Englishman and independent scholar who published little, but who was generally acknowledged in his day as perhaps the greatest living expert on Welsh names.

In the twentieth and twenty-first centuries, we do have several substantial scholarly publications to our credit. Let me list briefly, in chronological order, some of those that I consider to be highly significant:

1. In 1928, J. Lloyd-Jones – by then Professor of Welsh at University College Dublin – produced (in Welsh) the first county survey encompassing Caernarfonshire (Lloyd-Jones 1928), based on an essay which had won first prize at the 1921 National Eisteddfod, held that year in Caernarfon.
2. In 1938, Dr B. G. Charles produced a pioneering work on *Non-Celtic Place Names in Wales (*Charles 1938), to be followed more than half a century later by his copious two-volume *The Place-Names of Pembrokeshire* (Charles 1992).
3. In 1937, R. J. Thomas produced a first volume on river-names in Wales (Thomas 1937); unfortunately, no further volumes emerged.
4. In 1957, we saw Dr Elwyn Davies's *A Gazetteer of Welsh Place-Names* (Davies 1957), the first comprehensive list covering the whole country; this was followed in 1969 by Melville Richards's *Welsh Administrative and Territorial Units* (Richards 1969) – a comprehensive survey of both the medieval and modern divisions of Wales; and subsequently, in 2007, Professor Hywel Wyn Owen and Richard Morgan produced *Dictionary of the Place-Names of Wales (*Owen and Morgan 2007).
5. Other substantial area studies encompass the Dinas Powys Hundred near Cardiff (Pierce 1968), East Flintshire (Owen 1994), Anglesey (Jones and Roberts 1996) and Cardiganshire (Wmffre 2004).

The publications just cited compare favourably, in my opinion, with those produced by the English Place-Name Society. We should also mention volumes of lesser size, directed both at a more general audience as well as at specialists These are too numerous to list individually, so I will allude to just a few.

Firstly *Enwau Lleoedd* (Williams 1945), published in 1945 by Sir Ifor Williams, one of the best language scholars that Wales has ever produced, and one of the most absorbing public speakers, by all accounts. In style, it is eminently readable, and it may still be read with profit and enjoyment. This was the work, above all others, that first triggered my own interest in placenames. Secondly, I should mention the useful county studies by Richard Morgan, published between 1998 and 2005, for Radnorshire, Breconshire (with Peter Powell), Montgomeryshire and Gwent. These are again targeted at a wide audience, but are still based on sound scholarship and meticulous research. And finally, Dr Glenda Carr's recent book – published just before Christmas last year – *Hen Enwau* ('Old Names') relating to Arfon, Llŷn and Eifionydd, in what used to be called Caernarfonshire. This is a fascinating and eminently readable account of the more unusual names from that area, soundly based on the author's PhD thesis completed a few years earlier at Bangor University.

Some of the other works mentioned were also based on postgraduate work – mostly at Master's level – and there are a dozen or so further theses or dissertations which have not seen light of day in any shape or form.

But, the most labour-intensive of all work was carried out – for many years singlehandedly – by Professor Melville Richards, who taught at Swansea and Liverpool Universities, before moving to become Professor of Welsh at the University of Bangor. He is without doubt the doyen of onomastics in Wales, and his major achievement was to compile a massive archive, consisting of well over 300,000 handwritten slips. Unfortunately he died in 1973, long before his dream of producing a Welsh Onomasticon was realised. And indeed we had to wait until the beginning of the present century before work could begin, under the direction of Professor Hywel Wyn Owen at Bangor University, to digitize this archive. This story has a happy ending, however: *Archif Melville Richards* (Richards 2005), as it is called, is now available to all online, and is by far the most useful single resource in the field of placename studies in Wales.

The Centre for Advanced Welsh and Celtic Studies, located at Aberystwyth, also made a positive commitment to name-studies, when it appointed Dr David Parsons to the post of Senior Fellow in 2009. He was already an internationally renowned expert on the placenames of England, and is now directing a new research project on 'Welsh Name-Studies', the first part of which consists of a web-based electronic resource of writing on names – both placenames and personal names – in Wales.

Overall, however, it is sad to have to note that placenames research in Wales owes comparatively little to the initiative of Welsh institutions themselves, but far more to the work of a few pioneering individuals. And, as we look ahead, and consider what the future might hold for placenames research in Wales, our list of *desiderata* is an extensive one. It is clear that large areas of the country are still inadequately researched. Moreover, we still do not have a comprehensive guide

to placename elements, though there is a useful glossary in *Dictionary of the Place-Names of Wales* (Owen and Morgan 2007:xxiii-lxxvii). Much work needs to be done on the geographic distribution of certain placename elements, work which could be both enhanced and facilitated by new technologies, given the extensive availability of maps in digital form. Another area which needs more research is the local pronunciation of placenames, and again new technologies could assist in such work.

I will end with a plea to both academic institutions and to public authorities in Wales, and especially to the Welsh government, to show greater initiative and institutional commitment to the field of placenames research, which is culturally so important in giving people not only a sense of history, but also a sense of place. A greater commitment – such as that which obtains here in the Irish Republic, and indeed also in England – with the ensuing benefits that would result, would mean that Wales could advance beyond its image of a country broadly ignorant of its own history and heritage.

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Placenames Research in Ireland

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Abstract. This paper describes placenames research in Ireland, its purpose and its history. The great majority of the placenames of Ireland have their origin in the Irish language, particularly the names of the historical administrative divisions, namely counties, baronies, civil parishes and townlands, as well as the names of major geographical features. The greatest part of these names has come down in English-language form only, with just a small proportion being recorded in the Irish language. The paper outlines the anglicization of the country's placenames which began during the Anglo-Norman colonization of the country in the late twelfth century and continued down until the nineteenth century. The paper considers the standardization of the English spelling of placenames by the Ordnance Survey during the course of its first mapping survey in the nineteenth century.

The paper also deals with the restoration of Irish-language placename forms. Due to the great phonemic and orthographical differences between Irish and English, anglicization had the effect of rendering a high proportion of the placenames of the country unintelligible even to those with a good command of the Irish language. Consequently, a great deal of scholarly effort is required to establish the correct original forms of the names. Valuable work was undertaken to this end by several individuals in the nineteenth century, foremost of whom was the renowned scholar John O'Donovan (1806–1861).

The paper outlines the research into the placenames of Ireland which is undertaken by the Placenames Branch *(An Brainse Logainmneacha)* of the Department of Arts, Heritage and the Gaeltacht, in cooperation with the Placenames Commission *(An Coimisiún Logainmneacha)*, in order to establish the correct Irish-language versions of those names for official and public use. Once established, the Irish versions are given equal legal status with their English-language counterparts by means of a statutory order, known as a placenames order, made by the Minister for Arts, Heritage and the Gaeltacht, on advice from the Placenames Commission under the provisions of the Official Languages Act 2003. The paper presents the past and on-going research programme of the Placenames Branch and its main publications.

The paper concludes with a description of the Placenames Database of Ireland (logainm.ie). Logainm.ie is a public website which provides the official Irish and English versions of approximately 100,000 placenames throughout Ireland. It is also a comprehensive management system for data, archival records and placenames research conducted by the Irish State over the past sixty years. It is being developed by Fiontar, DCU in collaboration with the Placenames Branch.

Keywords: placenames; Irish language; anglicization; restoration; placename order; online database

Purpose of placenames research

Research into the placenames of Ireland is undertaken by the Placenames Branch of the Department of Arts, Heritage and the Gaeltacht, in cooperation with *An Coimisiún Logainmneacha* (the Placenames Commission), in order to establish the correct Irish-language versions of those names for official and public use. Once established, the Irish versions are given equal legal status with their English-language counterparts by means of a statutory order, known as a placenames order, made by the Minister for Arts, Heritage and the Gaeltacht, on advice from the Placenames Commission under the provisions of the Official Languages Act 2003.

Anglicization and standardization

The great majority of the placenames of Ireland have their origin in the Irish language, particularly the names of the historical administrative divisions, namely counties, baronies, civil parishes and townlands, as well as the names of major geographical features. The greatest part of these names has come down in anglicized form only, with just a small proportion being recorded in the Irish language. The process of anglicization of the country's placenames, that is the writing of names according to the spelling conventions of English, began during the Anglo-Norman colonization of the country in the late twelfth century and continued down until the nineteenth century.

By this later period the English spellings of the names of the principal towns and major features had become standardized, but this was not true for the thousands of other names, for which numerous variant spellings existed. This situation posed an immediate problem for the Ordnance Survey when it commenced its first survey of Ireland in 1824, as only one version of a placename could appear on its maps.

To overcome the problem, the Survey established an internal unit known as the Topographical Department, comprised of a number of civilians, to collect and examine the evidence, including local Irish forms of names where these existed, for the purpose of deciding a suitable English-language spelling of a name which did already have an accepted Engish form. The head of this unit, John O'Donovan, who was later to become the first Professor of Celtic in Queen's College, Belfast, is recognised as the foremost Irish-language scholar of the nineteenth century. The English spellings approved by O'Donovan and his team were engraved on the first edition of the Ordnance Survey series of maps at the British imperial scale of six inches to one mile, that is, 1:10,560 (Mac Giolla Easpaig 2008:167). The placenames contained in the maps of the Ordnance Survey, now Ordnance Survey Ireland (OSi), were deemed to be the definitive legal placenames of the country, a situation that continued until the enactment of the Official Languages Act 2003.

Restoration of Irish-language placename forms

Due to the great phonemic and orthographical differences between Irish and English, anglicization had the effect of rendering a high proportion of the placenames of the country unintelligible even to those with a good command of the Irish language. Consequently, a great deal of scholarly

effort is required to establish the correct original forms of the names. Valuable work was undertaken to this end by several individuals in the nineteenth century, foremost of whom was the renowned scholar John O'Donovan, mentioned above. As part of his work, O'Donovan travelled throughout the country consulting with Irish speakers wherever he could in order to ascertain 'the original vernacular name'.

The Irish form was recorded with an English translation in the Ordnance Survey Name Book (Mac Giolla Easpaig 2008:167). The Irish forms collected by O'Donovan and his colleagues constitute one of the most important sources for the study of Irish placenames. Patrick Weston Joyce is regarded as the leading authority on Irish placenames in the late nineteenth century and his three-volume series, *Irish Names of Places* (Joyce 1869-1913), which drew heavily on O'Donovan's work, inspired a great popular interest in Irish placenames and their origins. In the year 1905 the Gaelic League published *Post-Sheanchas* by Seosamh Laoide, which provided the public with Irish-language name-forms for the several thousand post offices in the country to facilitate the use of Irish in addresses. While welcomed at the time, *Post-Sheanchas* was shown to contain a number of fundamental defects, some of which were the result of insufficient research, while others stemmed from the author's approach to the subject.

The most serious flaw in the work derived from Laoide's rejection on ideological grounds of the use of what he regarded as an English-imposed county system in addresses, in favour of the use of a supposed earlier system of native territorial divisions. This approach led to the creation of the many unhistorical placename forms, a small number of which persist in public usage to the present (Mac Giolla Easpaig 2011:25-27).

An Coimisiún Logainmneacha, the Placenames Commission

It was not until the second half of the twentieth century that systematic research began on the placenames of the country with the purpose of establishing correct Irish language versions. The policy of the first native government was to promote the use of Irish in various areas of public life and accordingly Irish forms of placenames were required for regular use by both government departments and the general public. As stated earlier, Irish versions of the names of the post-towns of the country had been published by the Gaelic League some years previously and these, despite their flaws, were adopted by the Department of Post and Telegraphs on the foundation of the state in 1922 (Mac Giolla Easpaig 2011:27).

The need for authoritative Irish name-forms was increased with the coming into force of the Constitution of Ireland of 1937, which gave a special status to the Irish language as the national language and the first official language. Following the recommendation of An Taoiseach as Head of Government in 1945 that a booklet giving the correct Irish form of the post offices be published, *An Coimisiún Logainmneacha*, the Placenames Commission, was established by warrant of the Minister for Finance in the year 1946. The Commission was composed of private scholars

of toponymy and related disciplines representing various areas of the country. Its terms of reference were:

> to (1) examine the placenames of Ireland… and to search for the correct original Irish versions of those placenames insofar as they had Irish forms and those forms can be established, (2) prepare for publication and for official use lists of those names, in their Irish forms.

For the purpose of its remit, placenames were defined as names of "townlands, parishes, baronies, districts and other geographical areas, postal towns, villages, towns and cities, and other principal denominations" (Mac Giolla Easpaig 2011:45).

The enormous task of researching all the names of the country proved to be beyond the efforts of private individuals, no matter how willing. Consequently, in the year 1955 the terms of reference of the Commission were amended, making their duties those of advising the government, while the actual research was left to a permanent research staff in the Placenames Branch, which was established a year later in the Ordnance Survey, then an office of the Department of Finance.

Ainmneacha Gaeilge na mBailte Poist: Irish names of postal towns

The first major programme of the Placenames Commission was to establish authoritative Irish-language forms of the names of postal towns, comprising the names of about 2,500 towns and minor settlements throughout the state. Despite the modification of its terms of reference, the Commission continued to concern itself directly with this project at regular meetings, in which it considered the evidence compiled by the research staff in the Placenames Branch, and on the basis of that evidence decided the official Irish-language forms.

Following widespread public consultation, the Irish-language forms of the postal towns that had been decided by the Commission were published as definitive lists by the Director of the Ordnance Survey in *Ainmneacha Gaeilge na mBailte Poist* in 1969 (Ó Maolfabhail 1992:21).

In the year 1964, the Placenames Commission advised the Minister for Finance on the need to give legal recognition to Irish forms of placenames. In response to this advice, the Placenames (Irish forms) Act was enacted in 1973, which allowed the Minister for Finance, on advice from the Commission, to make an order to give legal status to Irish forms of placenames. Under the provisions of the Act, the Placenames (Irish forms) (No. 1) (Post-towns) Order 1975 was made by the Minister, giving legal status to Irish names of the postal towns. Because of underlying weaknesses in the Placenames Act, however, only one other order was made under its provisions, that for the purpose of amending one of the Irish forms in the 1975 order.

Consequently, the Placenames Act of 1973 was repealed and its provisions were incorporated with fundamental amendments into the Official Languages Act 2003. The Irish names of the postal towns were subsequently given equal legal status with their English equivalents in the Placenames (Centres of Population and Districts) Order 2005 under the terms of the 2003 Act.

The Placenames Branch

On the completion of the work on postal towns, the role of the Placenames Commission became strictly advisory, as was the intention in the amendment to its Terms of Reference of 1955. The responsibility for the compiling and analysis of the historical and linguistic evidence and deciding of Irish name-forms was left to the professional staff in the Placenames Branch.

The Branch had been involved in providing numerous Irish-language forms for a variety of customers since its inception, for road signage, translation and educational purposes in particular, and this aspect of the work continues to the present day. However, the research work of the Placenames Branch became more closely integrated with that of the Ordnance Survey following a decision by the Survey in the mid-1970s that the placenames in its new large-scale rural mapping programme were to be bilingual as far as practical. Consequently, the research work was directed towards providing the authoritative Irish forms of the names of all administrative units on those maps, including townlands, baronies and electoral divisions, as well as the names of larger geographical features (Ó Maolfabhail 1992:25). In the 1990s, the Placenames Branch also provided the Irish names for the Ordnance Survey's new 1:50,000 series of tourist and leisure maps, known as the Discovery Series.

In the late 1990s, a decision was taken to change the status of the Ordnance Survey from that of an office of the Department of Finance to that of a commercial state body to be known as Ordnance Survey Ireland (OSi). Following this, responsibility for Irish-language placename policy was transferred from the Department of Finance to the Department of Arts, Heritage, Gaeltacht and the Islands, which resulted in the Placenames Branch becoming part of the Irish-Language Division of that department in 1999, and in responsibility for the Placenames Commission being transferred to the Minister for Arts, Heritage, Gaeltacht and the Islands a year later. As a result of these changes, the Placenames Branch was no longer involved directly in providing Irish placename forms for mapping programmes. However, the Branch was engaged on contract by OSi for a period to provide correct Irish versions for the street names in its address database, GeoDirectory, in collaboration with the local government authorities.

Research programme

For reasons of practicality, the Placenames Branch has always undertaken its research on a county basis other than in exceptional circumstances such as its early work on the names of the postal towns and, latterly, on the placenames of the Gaeltacht areas. The research methods of the Branch are based on the approach that had been pioneered in Sweden around the beginning of the twentieth century. This methodology involves collecting all the spellings of a name from historical sources and ascertaining its pronunciation in the local community. Research has been completed and Irish-language forms have been determined for the names of all administrative units and major features in counties Cork, Dublin, Galway, Kilkenny, Leitrim, Limerick, Longford, Louth, Offaly, Tipperary, Waterford and Wexford, while work is near completion in counties Carlow, Clare, Donegal, Kerry, Kildare, Laois, Sligo and Wicklow.

The Irish forms are being determined for the placenames of County Mayo, research for which was completed by means of a postdoctoral fellowship funded by the department, while significant research has been completed for the four remaining counties, Cavan, Meath, Roscommon and Westmeath, some of it by means of postgraduate bursaries funded by the department. In addition to the above, the Branch has researched and provided Irish versions of the administrative and all other names that appear on the Ordnance Survey large-scale maps of the Gaeltacht areas. With the resources available to it at present, it is envisaged that by the year 2018 the Placenames Branch will have provided Irish-language forms for the names of all administrative units and all major features on OSi maps.

Publication

In the late 1980s, on the advice of the Placenames Commission, the Placenames Branch established a programme to make the results of its research more accessible in book form to those who had a need for Irish-language name-forms and for those who had a general interest in the subject of placenames. Its first publication was a concise, bilingual gazetteer of Ireland containing about 3,300 of the most widely used placenames in the country in their English and Irish forms, along with other geographical information (Brainse Logainmneacha 1989). By this period also, Irish-language forms had been established for the administrative names of a number of counties and these were published in bilingual list form in a series of county volumes, *Liostaí Logainmneacha.* The first volumes in the series, those for Limerick, Waterford and Louth (Brainse Logainmneacha 1991a, 1991b and 1991c), were published in 1991, with a further three volumes appearing closely afterwards covering the placenames of Kilkenny (Brainse Logainmneacha 1993), Offaly (Brainse Logainmneacha 1994) and Monaghan (Brainse Logainmneacha 1996). Following a long hiatus, the volume for County Tipperary was published in 2004 (Brainse Logainmneacha 2004).

The need for the continuation of this series is under review at present in the light of the development of the Placenames Database of Ireland, discussed below. The first in a planned series of volumes designed to present the historical evidence for the placenames along with discussion of their origins was published about this period also (Ó Maolfabhail 1990). While the first volume discussed all the placenames of a particular county, County Limerick, the two other volumes published to date discuss individual name-elements within a county, namely the occurrence respectively of the element *cill*, 'church', and *cluain*, 'pasture', in the placenames of County Tipperary (Ó Cearbhaill 2007 and 2010). Further publications are planned in this series, notably a volume on the placenames of County Wexford, which will be ready for publication in early 2014.

The Official Languages Act 2003

As noted earlier, there was an apparent reluctance to use the provisions of the Placenames (Irish forms) Act 1973 to give legal standing to the Irish-language forms of placenames approved by the Placenames Commission. The problem was that while the 1973 Act allowed Irish-language forms of placenames to be made available for official use, it also meant that, in legal terms, the placename remained in the English language In order to rectify this seemingly unacceptable

situation, a decision was made to incorporate the provisions of the 1973 Act, with fundamental amendments, into the Official Languages Act of 2003. Under Part 5 of the Official Languages Act, the Minister, having received and considered advice from the Placenames Commission, may by order declare the Irish-language version of a placename specified in the order.

Once a placenames order has been made in respect of a placename in an area outside the Gaeltacht, the Irish and English versions of that placename have the same status and the same legal force and effect. Where the Minister makes an order in respect of a placename in a Gaeltacht area, the English version of that placename ceases to have any legal force or effect (Mac Giolla Easpaig 2008:173). In order to facilitate the implementation of the provisions of Part 5 of the Act, the Minister established the Placenames Commission on a fresh footing by changing its terms of reference and by appointing a new membership.[1]

Placenames orders

The procedure followed in the preparation of a placenames order involves close cooperation between the Placenames Branch and the Placenames Commission, along with consultation with the local authorities and the general public. Firstly, the Placenames Branch undertakes research on the placenames of a particular county and recommends provisional standardized Irish-language versions of the names based on its research and other criteria. The Placenames Commission considers and approves the provisional versions, following further consultation with the Branch when required. It then publishes the names as a draft placenames order on the web and invites comment on them from the public and from relevant official bodies. The Commission subsequently reviews the provisional Irish versions in the light of the comment received. On completion of the consultation process, the Commission advises the Minister to make a placenames order to give legal effect to the Irish versions of the placenames listed in the draft order. Having considered the advice from the Commission, the Minister makes the placenames order under the powers given to him in Part 5 of the Official Languages Act 2003.

Since the year 2003, the minister responsible has made 13 placenames orders under the provisions of the Official Languages Act. The orders declare the legal Irish versions of the names of the provinces and counties, of the administrative units and of other names in counties Dublin, Kilkenny, Limerick, Louth, Monaghan, Offaly, Tipperary and Waterford, and of the names of centres of population and districts not covered by other orders. Two placenames orders have been made in relation to the placenames of Gaeltacht areas, the first in 2004 to declare the Irish names of the administrative units, the second in 2011 to declare all other names depicted on the

1 The current terms of reference to the Placenames Commission are available at: http://www.logainm.ie/Info.aspx?menuItem=commission&uiLang=en (accessed 9 May 2012).

historical, large-scale maps of the Ordnance Survey.[2] All the Irish forms involved are based on research by the Placenames Branch and many had already been published in the Branch's series of county volumes, *Liostaí Logainmneacha,* referred to earlier. At the time of writing, the Placenames Commission has completed its consideration of the Irish versions of placenames of four further counties, namely Cork, Galway, Leitrim and Longford, and it is expected that placenames orders will be made for these during the course of 2012. The Placenames Branch is currently engaged in the process of providing provisional Irish versions of the placenames of six other counties, namely Mayo, Wexford, Sligo, Carlow, Kerry, and Laois, with the intention of having these considered by the Placenames Commission and placenames orders made for them by the end of 2013 or early 2014. As stated earlier, considerable research has been completed on the placenames of the eight remaining counties in the state, namely Cavan, Clare, Donegal, Kildare, Meath, Roscommon, Westmeath and Wicklow. With current resources, it is reasonable to expect that placenames orders will have been made for all administrative names and other major placenames within the state by the year 2020.

The Placenames Database of Ireland

The Placenames Branch has always had a steady stream of requests for assistance in matters relating to placenames since its establishment, be they from state bodies seeking authoritative Irish versions of placenames for official purposes, or from members of the public seeking, for example, the identification of the place of origin of their ancestors (Ó Maolfabhail 1992:23-24). The number of requests for official Irish versions of placenames in particular increased greatly following the enactment of the Official Languages Act 2003, with its requirement that public bodies publish certain documents in Irish and English, or in Irish only. In order to meet this increase in demand a decision was made to make all Irish versions recommended by the Placenames Branch available through an online database. Consequently, in 2007 the Department of Community, Rural and Gaeltacht Affairs engaged the services of Fiontar in Dublin City University on contract to develop a web-based national database of placenames in collaboration with the Placenames Branch. Fiontar had already been responsible for developing the official online database of Irish terminology (www.focal.ie) and had, therefore, both the resources and the technical expertise available to undertake the placenames project. Work commenced on Phase I of the project in April 2007 and *Bunachar Logainmneacha na hÉireann,* the Placenames Database of Ireland (www.logainm.ie) was launched officially in early October 2008. Further development was undertaken in Phase II (2009-2010) and is continuing in Phase III (2011-2012), which is currently in progress.[3] It is expected that Phase IV will begin in January 2013.

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2 All placenames orders made to date are available at: http://www.logainm.ie/Orduithe.aspx (accessed 11 May 2012).

3 Information on the project is available at http://www.logainm.ie/Info. aspx? menuItem=about &uiLang=en (accessed 11 May 2012).

The Placenames Database of Ireland is accessible through two interfaces. The editorial website is a comprehensive management system for data, archival records and placenames research conducted by the Placenames Branch. The public website is primarily aimed at journalists and translators, students and teachers, historians and researchers in genealogy. It is a resource for Irish people at home and abroad, and for all those who appreciate the rich heritage of Irish placenames.

At the time of writing, the database contains 107,698 individual geographical names in their English versions, including all administrative names within the island of Ireland, including Northern Ireland, and some 23,700 street names within the state. Authoritative Irish versions are available for approximately 80,000 of these names. It is envisaged that the database will contain over 170,000 names when the remaining street names and the non-administrative placenames depicted on the OSi's large-scale historic maps have been included. Irish-language versions will be provided for all of these in the coming years.

The placenames are arranged in the database in the historical hierarchy of county, barony, civil parish and townland, the smallest administrative unit. National grid coordinates are provided for townlands and other settlements, which allow these to be shown on the database map browser. The current map feature is based on Google Maps, but, as outlined in Maria Byrne's paper to this workshop, work is underway to integrate OSi's MapGenie web mapping service as an additional browsing interface to the database.

Sound files, providing an audio guide to the pronunciation of the principal names of the country in Irish and English, are being added on a phased basis by county. Educational resources are available on the public interface for primary, post-primary and third-level students. The database contains a system to enable simultaneous Irish–English and English–Irish translation of lists of placenames.

Over the years, the Placenames Branch has built up an extensive archive of placename forms gleaned from historical sources, along with other relevant information. Some of this material is already available on the public website as 'scanned images' under 'archival records'. All of the material is currently being input into the historical forms database and is available under 'text records'. When complete, this feature will contain hundreds of thousands of forms which have been excerpted from several thousand historical sources and will eventually be fully searchable according to various criteria. Explanations of the placenames, along with lengthier notes, are being added on a daily basis.

Since its launch, the Placenames Database of Ireland has proved to be a powerful tool in the research conducted by the state to establish authoritative, standardized versions of Ireland's placenames and to make these available for official and public use. The popularity of the database among the public has surpassed all expectations. According to statistics recorded by Fiontar, the placenames website has received 5.8 million hits from 358,702 individual

users in the three and a half years following its launch in October 2008. The Placenames Database of Ireland has undoubtedly inspired a renewed public interest in Ireland's placenames and provides an online public resource to explore and enhance knowledge of the richness and complexity of this aspect of Ireland's linguistic and cultural heritage.

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Lifting the Blanket: dual-naming for Gaelic language planning

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Abstract. Scottish toponymics are marked by having a range of languages lying behind the placenames. This can be regarded as both a blessing for interest and a curse for management. A wide distribution of each language beyond simple regional concentration represents the ebb and flow, and intermixing, of cultures in Scotland's complex and contested past. This and a meagre corpus of robust local studies, only now being addressed, has led to a long history of often wishful amateur Gaelicizations (and de-Gaelicizations). And so public representation of the small and weak minoritized language, Gaelic, has often been a mess. And that mess has often been the cause of, at best, a wariness in employing Gaelic forms alongside their English equivalents even where policy permits dual-language use. Over the last decade, practical necessity created the demand and conditions for public bodies to start to address this situation, eventually leading to a staffed research and guidance facility for the determination of formal Gaelic placename forms: Ainmean-Àite na h-Alba (AÀA). This has progressed to the launch of a public-access database with reasoning and policy outlined for each recommendation.

In addition to touching on this background, the presentation will also look at the necessity of the demand-led, piecemeal route towards a national Gaelic gazetteer, and the pressures and even opportunities that this has presented. Leaving the technical issues to AÀA researcher Dr Jacob King, also making a presentation at this workshop, comment will be made on challenges that have presented themselves in formulation of policy and in reception of implemented decisions. Factors impacting on both include: limited understanding and engagement among planners, even Gaelic planners; widespread ignorance and disregard of Scotland's medieval heritage, to which most Celtic- and Norse-derived names belong; the differences between topographic, administrative, settlement and street names; and perceptions of territorial exclusivity from some supporters of Scots and of territorial limitation from some supports of Gaelic (and transient 'false friends' of these and other languages).

The presentation will conclude with the latest on the developing environment in which the management and dissemination of Gaelic placename data will have to – will want to – operate. This is the creation of a national Gaelic language academy, currently the subject of advanced discussion between leading corpus development and implementation bodies. The opportunities presented by such an academy, and the shape it will initially take, will hopefully be ready for airing at the workshop.

Keywords: Scots Gaelic; placenames; dual-naming; signage

Scotland is a multilingual country: immigrant languages have long ceased to be a rarity. Multiple languages now appear on the cartons on the breakfast table. And the reconvening of the Scottish Parliament after a gap of three hundred years has allowed for the indigenous languages of Gaelic and Scots to gain more attention alongside the younger, but greatly dominant, Scottish Standard English.

This comes after a period of considerable decline in the two minoritized languages. But history has bequeathed Scotland a mix of languages in its toponymy. On signs and maps, in conversations and bulletins, languages as diverse as Norse and Scots, Gaelic and British, are given daily life through derivative toponyms. This gives Scottish placenames an added interest, and indeed gives the country much of its flavour and individuality. It also adds a layer of complexity to frustrate toponymists, historians and language planners. Before determining an etymology or implementing a policy, you must first decide in which language the name was coined, and through which languages it might subsequently have passed.

These tasks are made no easier by wide distribution patterns and varying time-depths for many of the languages involved, representing the ebb and flow, and intermixing, of cultures in Scotland's complex and contested past. Norse-derived names appear in various regions, and dominate in some. Welsh-related names are regionally numerous, but can't be discounted anywhere. Gaelic is dominant over half the mainland and is encountered in all areas other than the Northern Isles, acquired from Norway at the end of the Middle Ages. Scots took hold in the south-east and spread out over most of the country. English can be found as a veneer across Scotland.

Such complexity, combined with adherence to visions of the past and of the future, has produced much comment on Scottish placenames in print and on parchment. Little of this has been reliable, but it continues to influence both popular appreciation and the fringes of academic understanding. It can be speculated that it is this very complexity that has acted to limit the extent of more robust exploration of Scottish placenames. A more straightforward toponymic environment with less diversity might have built up a critical mass of nationwide knowledge and debate, engaging various specialist fields and generalist interest – as happened in England with the establishment of the English Place-Name Survey in 1923. Instead, small numbers of interested folk largely working alone tended to cut isolated furrows, furrows that developed into ruts. The slow build-up of active toponymic interest has led to, and been accelerated by, the establishment of the Scottish Place-Name Society in 1996, and the launch in 2007 of the *Journal of Scottish Name Studies*, supplementing the British and Irish onomastic journal *Nomina*. The recent five-volume *Place-names of Fife* has set a new benchmark for local studies.

Whereas reduced language status through past official neglect, benign or otherwise, seriously undermined both Gaelic and Scots, the UK Ordnance Survey (OS) has a uniquely honourable role in their maintenance. This may not have been the experience in Ireland, but when the mappers

of the OS gave Scotland its first detailed nationwide mapping, they made every effort to record the names, especially of topographic features, not already anglicized in the orthography of the language of use. Doing this in the third quarter of the nineteenth century, they fortuitously caught Gaelic when it was still widely spoken across the Highlands, leaving us with Gaelic names in Gaelic spelling dominating half the map.[1] This Gaelic world suddenly disappeared from most of the mainland during the twentieth century, and would have been largely forgotten already, but for the map.

Popular comment tends to view Scottish placenames through a prism of strong local identity and perceived heritage. Map or no map, this often works against Gaelic, with a refusal by some to accept or believe a local stratum for the language. But it is also the case that pro-Gaelic wishful thinking has in the past managed to make Gaelic derivations of clearly non-Gaelic names. This may have given some initial boost to the language cause, but could have had a long-term negative impact of cynicism, and not just among non-Gaelic speakers. The result has been to throw the multilingual baby out with the dirty etymological bathwater, and to create an even greater wariness about accepting dual-languaging as an expression of the equivalence of name traditions and developments. Nevertheless, by the end of the twentieth century, bilingual road-signage was becoming common in areas where Gaelic was, or had recently been, to the fore. Attempts to push dual-language road-signing east and south have not so far succeeded, but gradual expansion is conceivable.[2]

In fact, where the national breakthrough has come has been on the railways. Dual-language station nameplates were introduced at the end of the last century on the Highland routes, the terminus in Glasgow and, inexplicably, the remote, run-down, unmanned station glorying in the name of Gleneagles. But now the national rail network, ScotRail, is not only adopting a dual-language livery, but also rolling out dualled platform signs across Scotland. There was a pay-off, in that the signage style chosen sadly departs from the use of colour, rather than size and font, to differentiate the languages.[3] Nevertheless, it represents an introduction to dual-language signage for the bulk of Scotland.

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1 See http://www.ordnancesurvey.co.uk/oswebsite/freefun/didyouknow/placenames/gaelic.html (accessed 28 March 2012) for a downloadable map showing the approximate occurrence of names in Gaelic orthography in Scotland on Ordnance Survey maps, with a guide to interpretation.

2 The Scottish Government's Gaelic language plan states that "the work to implement the current trunk road bilingual sign policy on those routes leading directly to Western Isles ferry ports is ongoing. This work will be evaluated to establish the impact of bilingual road signs on road safety and to inform future trunk road bilingual sign policy" (2010:73).

3 Though the local authority for the Western Isles, Comhairle nan Eilean Siar, uses size to differentiate (in this case, Gaelic is most prominent), the national norm for directional road-signage is to differentiate by colour, as outlined in guidance by the Scottish Government agency Transport Scotland (2006:44). Station-sign design is outlined in a ScotRail guideline (Transport Scotland 2010:38).

The justification for dualling stems from a basic premise in the context of Gaelic, which may not seem obvious from other cultural perspectives. In Scotland, anglicization (and to a lesser extent translation or renaming) has been the fate of virtually all settlement names, and of some major physical features; to be fair, Gaelic also did this to names it encountered during widespread expansion in the early medieval period. The anglicized forms gained authority and status from their adoption by the Scottish administration and aristocracy, but the Gaelic forms continued in use alongside these alternatives. This has led to a default expectation – on the part of Gaelic activists at least – of a Gaelic name or form for all placenames, even for those not widely known or not derived from Gaelic.

The single most important event to add a spark to this combustible background has been the Gaelic Language (Scotland) Act, passed without opposition by the Scottish Parliament in 2005. Among its main provisions was the introduction of statutory Gaelic language plans – the equivalent of what are known in Wales and Ireland as schemes – for selected public bodies, including the government itself. This ratcheted up the requirement for defendable and consistent forms of Gaelic placenames, not only for signs on platforms and roads, but also for signs and publications associated with various footpath networks, national forests, heritage sites, nature reserves, school buildings, shopping and housing developments, and for lists of parliamentary constituencies and local councils. A liaison committee set up under Ordnance Survey impetus in 2000 to deal with minor orthographic inconsistencies in their mapping found itself receiving more and more requests from public bodies for advice on signage. So in 2006 the committee was transformed into 'Triple A', Ainmean-Àite na h-Alba (AÀA), or Gaelic Place-Names of Scotland. The stated purpose (AÀA 2010) of this widened partnership of public bodies is to determine the authoritative forms of names with reference to both historical research and current usage, to apply consistent orthography, and to encourage the adoption of these forms. To do this it has established an online database of Gaelic names at www.gaelicplacenames.org, which is organically building up into a national Gaelic gazetteer as it responds to requests for advice on groups of names as required by members and other public bodies. This could not have been achieved without the establishment of two full-time posts, those of Project Coordinator and of Researcher, and of good appointments in both.

The role of AÀA is one of advice. It has no statutory or other authority to impose its determinations, from a toponymic or a Gaelic perspective. But it is operating in an environment in which there is no overall authority for either, except regarding street names. Scotland has no naming authority for any language. Streets are the responsibility of local councils, but placenames proper are determined by use, not diktat. That said, the very nature of this bottom-up approach has allowed for *de facto* authority to fill the administrative gap. Councils are the effective namers for settlements but, with a few exceptions, topographic and maritime features have been left to the Ordnance Survey to determine. Likewise, no other body is well placed to critically review AÀA's recommendations, and its conclusions are usually accepted by organizations without further deliberation. But AÀA itself recognizes local government as the final arbiter for Gaelic settlement names.

AÀA tries to mitigate the inherent weakness and potential counter-productive impact of reliance on a small cadre of actively engaged placename and Gaelic language expertise in three ways: toponymic research, corpus ideology and public consultation. The biggest hurdle to all three is time, especially with frequent last-minute requests for assistance. The least effective solution has been consultation. Compiling the views and suggestions of the cadre members amid their other day-job duties takes long enough *(mea culpa),* and in practice the desired connection with the relevant local community is usually unachievable beforehand. A more feasible route to elicit local knowledge and sentiment, and to promote consensual acceptance of the outcome, seems to be direct approach to known local experts and Gaelic networks. But it remains a matter of concern.

More effective has been toponymic research. This typically consists of:

1. The collation of forms from early sources and modern recording to build a picture of the etymology and development of the English and, if known, Gaelic name. This data is crucially made available through the online database in support of the reasoning. This is not to say that an historical version or alternative is automatically recommended, as Gaelic corpus-planning priorities take precedence in the case of any divergence.
2. The consultation of the academic literature on the name, and semi-academic Gaelic material that might indicate or support understanding of present use of a distinct name or name-form. It has to be accepted that names derived by the false etymologizing of an earlier generation may now be so established as to be legitimate names. Such developments are not unique to minoritized languages or modern times.
3. The consideration of identical names or semantic parallels to seek a traditional Gaelic construction and vocabulary to maintain as much as possible the nebulous Gaelic 'feel' of names coined in earlier, monolingual times, with any detected preference in the regional toponymicon reflected.

The third approach for AÀA is the establishment and implementation of priorities for Gaelic toponymic planning. As is perhaps inevitable in work of this kind, interpretation of guidance gets modified and new principles become tested among those most closely involved, as a result of increasing familiarity with the task and increasing knowledge of exceptions and novelties. AÀA currently works to a published set of policies on spelling (GNLC 2006a), following the general *Gaelic Orthographic Conventions* (SQA 2009) but extending them to cover issues specific to placenames, on issues peculiar to street-naming (GNLC 2006b), and on the limits of dual-naming, agreed with Bòrd na Gàidhlig as the statutory Gaelic agency.

There is a low level of understanding of Gaelic and of Gaelic issues among transport and other signage planners, who have suddenly found themselves faced with the question of dual-naming. Experience of the language is generally very limited, and knowledge even less. Though we are currently seeing a great improvement in awareness, and polling shows national goodwill to the language, those involved in the signing process usually have little or no ability to determine whether a name is appropriate, or if spelling errors are being committed. As long as a name is

provided, questions are rarely asked or proofing ensured. This leads to inconsistencies, to errors, to loss of credibility, and potentially to cynicism among Gaelic-users themselves.

This lack of confidence in name authenticity is compounded by a wide ignorance among Gaelic and non-Gaelic speakers alike of language history. Most native speakers are now from islands off the north-west coast. The phenomena of Gaelic-medium education and of adult Gaelic learners, set against a collapse in intergenerational transmission in the islands, may well be bringing in a demographic shift within the national Gaelic community. But as things stand, there is a cultural limit for many in projecting the relevance of Gaelic to the mainland. Where Gaelic was dominant till at least a hundred years ago, it is an easier job to justify Gaelic names. But Gaelic has at some point or another been a community language across virtually all of the Lowlands too – as amply demonstrated by the placenames themselves. The difficulty seems to lie in a blindness, beyond the martial exploits of national heroes, to the heritage of medieval times. No area beyond the Highlands continued to be Gaelic-speaking into the modern era to any marked extent, producing a half-and-half cultural and linguistic divide of the landmass between Lowland and Highland for much of the modern era. Though essentially long gone now, this modern-era divide still has a hold on the Scottish psyche, one which is sometimes cynically played on by false friends of Scots and Gaelic, to the detriment of both languages.

The aim has to be to maintain an acceptance of dual-naming, through authenticity, by both Gaelic and non-Gaelic speakers, while pushing the bounds for the language. It is not an exercise in antiquarianism, but in language planning. It is about promotion, not the past; but using the past to lend credence to the promotion of the status of the language. This means not producing a Gaelic name in all cases, though this itself has drawn criticism from those seeking blanket Gaelicization. The current policy on bilingualism in placenames does not seek to establish a Gaelic version if a placename is of non-Celtic derivation, has an etymology not readily transparent to the average speaker of Scottish Standard English, and has no established Gaelic form or alternative. Exceptions are made to allow for, where feasible, dual-naming of such as post-towns and major administrative units and transport facilities, and of heritage and tourist centres of regional or national import. Both Gaelic translations and orthographic adaptations are permitted, but more problematic has proven to be the allowance of the mixing of languages to apply Gaelic modifiers to non-Gaelicized secondary names.

This policy, like all corpus policies, should be subject to review, in the light of changing experience, expectation and language. The names themselves, collected online, should be open to review, fluidly before implementation, but viscously once on signs or in schoolbooks. The intention has been that corpus guidance and developments in general should be subject to scrutiny and authorization by a Gaelic language academy. The economic circumstances of the day have curtailed the ambitions of some for a full-blown institute, but current moves may result in the establishment of a panel of experts. This panel would act as the official regulator of the language, embody and maintain the basic principles of corpus planning, be the ultimate institutional

authority for standardization and codification, monitor and assess the contemporary linguistic and sociolinguistic use, and specify priorities for action. Gaelic placename research and planning is essential to such work, and will benefit from it.

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Placenames Research: Panel 2

Taighde logainmmneacha: Painéal 2

Placenames in Norway: research, storing, management and dissemination of the data

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Abstract. The modern placename research in Norway was founded by Oluf Rygh through his great work *Norske Gaardnavne* [Norwegian Farm names], published from 1897 to 1924 in 18 volumes, one for each county. It gives information on standardised spelling, pronunciation, historical forms, topographical features as well as etymological comments of the about 45 000 medieval farm names of the country. During the 1990's the whole series except the Finnmark volume was digitalised (http://www.dokpro.uio.no/rygh_ng/rygh_felt.html). Later generations of placename scholars have profited from this work in the study of settlement names and names of natural features. A number of works on river names, lake names, mountain names, fjord names and other groups of placenames have been published during the last century. A supplementary series on all sorts of settlement names started at the end of the 20th century. Also microtoponyms have attracted much onomastic interest. Several placename dictionaries have been published in later years.

When the Norwegian Placenames Archive was founded in 1921, the aim was to collect and store placenames as research material for the study of the country's historical topography and thus continuing the results of Oluf Rygh. Both written and oral sources were exploited and gradually a large collection of card files was built up. In 1978 the institution became a department at the University of Oslo. Gradually the available resources have been reduced, but the collection of microtoponyms has continued locally through historical associations. During the first decade of the 21st century most of the material has been digitalized and will be attainable on the Internet in a not too far future. Also a method of presenting microtoponyms digitally on net based maps is being developed. In the second half of the 20ieth century placename departments were also founded at the universities of Bergen, Trondheim and Tromsø. Smaller research groups have been established for Saami and Kven placenames. The Norwegian placename Consultancies, administered by the Norwegian Language Council, are situated at the universities and depend very much of the placename collections.

Keywords: onomastics; placenames; placenames research; settlement names; placenames database; placenames online

Introduction

It is often said that placenames represent an important part of a nation's cultural heritage. Politicians and bureaucrats within the cultural establishment readily advocate this view on festive occasions, though too often without following up with sufficient grants. It is also disappointing that the universities and other scientific institutions allocate less and less money for onomastic research. Of course, at a time when many European countries are suffering from a financial crisis it is not easy to find available resources, and probably many countries find themselves in a similar position. Only minor grants are being allocated for projects related to the collection and study of placenames. When name scholars retire their salaries are redistributed and transferred to other academic fields which are more in compliance with prevailing research policies. For instance, the number of professional name scholars at the University of Oslo has been reduced by 50 per cent over the last 20 years. Obviously the nation's considerable oil revenues do not flow into the field of name research. In this situation it is so much more laudable that Fiontar at the Dublin City University is capable of hosting an international workshop.

The Norwegian authorities are not unaware of the necessity of placename collection and management. Over three decades Stortinget (the parliament) and various governments have pronounced their readiness to support continued collection and management of placenames throughout the country. In the most recent governmental document, issued 2007–08, entitled *Mål og meining*[1] ('Language and meaning'; *mål* also means 'goal'), section 8.3.3.1 states that the nation will suffer an irreplaceable cultural loss if nothing is done about the placenames that still are to be collected, and continues:

> Placenames are historical documents which convey information about natural and cultural circumstances in the area where they have been coined. A detailed/comprehensive placenames material from an area makes it possible to read the human utilization of the area at various historical periods. In the revised law on placenames which was put into effect 1 August 2006 it is stated that the aim of the law is partly to take care of placenames as [intangible] cultural monuments. That which makes placenames particularly important as linguistic monuments is that they are attached to certain points, lines and areas in the landscape, and that they contain information on how the name-givers looked upon the feature at the time when the name was given. Thus [the names] make out important bits of historical information in the area in question. (My translation)

The document also refers to the United Nations Convention for the Safeguarding of the Intangible Cultural Heritage of 17 October 2003, ratified by Norway 17 January 2007. The convention stresses the importance of documentation, preservation and research into this type of material. After the launch of *Mål og meining* the Ministry of Cultural Affairs invited a liaison committee

1 http://www.regjeringen.no/nb/dep/kud/dok/regpubl/stmeld/2007-2008/stmeld-nr-35-2007-2008 html?id=519923 (accessed 26 March 2012)

representing the Norwegian universities and colleges to prepare an application for a pilot project in order to work out a comprehensive plan for collection, digital storing and dissemination. During the years 2010–11 this project was carried out at the Institute of Linguistics and Scandinavian Studies, University of Oslo. Currently the staff at the institute, in cooperation with the liaison committee, are preparing a national plan for a three-year project to implement the intentions of the above-mentioned document *Mål og meining*. This initiative may be understood as an onomastic commitment by the authorities, although it by no means compensates for the reduced positions and resources. As Norway will celebrate the 200th anniversary of its constitution in 2014, it is a good opportunity to promote placenames as part of the national heritage.

Some theoretic viewpoints

It would be an overstatement to say that Norwegian scholars have been leaders when it comes to onomastic theory. However, several Norwegian name scholars have contributed to the discussion of theoretical and methodological questions, exchanging views with their colleagues abroad. An increasing number of conferences and workshops over the last decades have made it possible for students of names to meet and discuss common issues at a high academic level. We have also seen an impressive number of articles and books dealing with theoretical aspects of naming. Onomastic journals also play an important part in triggering onomastic studies and disseminating scholarly knowledge, for instance the *Journal of the English Place-Name Society*, the British *Nomina*, the German *Beiträge zur Namenforschung*, the American *Names*, the Swedish *Namn och bygd* ('Names and settlements'), the Norwegian *Namn og Nemne* ('Names and Appellatives'), not forgetting the international journal *Onoma* published by the International Council of Onomastic Sciences (ICOS). The proceedings from international conferences, in particular the congresses organized by ICOS, offer a broad perspective on the various views on placename theory and methodology. Several international scholars have also published special volumes on theory (e.g. Gardiner 1954; Searle 1969; Algeo 1973; Kalverkämper 1978; Van Langendonck 2007). Others have edited volumes containing papers on onomastic theory (e.g. Eichler *et al.* 1979; Debus and Seibicke 1989; Eichler *et al.* 1995, 1996; Ziegler and Windberger-Heidenkummer 2011). I should here also like to refer to the methodological approaches to placenames in the landscape by Margaret Gelling and Ann Cole (2000). In a Nordic context various symposium and conference proceedings related to theoretical and methodological questions have been published as well, for instance on the role of analogy in naming (Albøge, Meldgaard and Weise 1991), placename changes and functionality (Dalberg 1991), and placename research in a more general perspective (Christensen and Kousgård Sørensen 1972; Zilliacus 2002).

It is not my intention here to go into the various views and schools regarding placename theory. Let me just iterate a couple of approaches which have been discussed in Norway. One question is whether there is a theory of onomastics in opposition to a theory of linguistics. John Algeo (1985) is reluctant to answer yes to this question as long as name scholars concentrate on collecting names and categorizing them according to lexical criteria. However, he does envisage an onomastic theory if the scholars are able to define proper names as something which distinguishes them from other words in a language both synchronically and diachronically. W. F. Nicolaisen

(1990) points out that names, being part of an onomasticon and not a lexicon, have a double and unique quality in that they have both meaning and content (German: *Bedeutung and Inhalt)*.

For a long time one of the main issues has been to distinguish between proper names and appellatives (words). It has been posited that one of the criteria for a name is that it cannot occur in both indefinite and definite forms, nor can it occur in both singular and plural as long as it is question of the same name. The placename *Ford* should as a principle not have *The Ford or (The) Fords* as variants (though that is not excluded in the real world). Another criterion is that a name cannot be combined with restricted relative clauses. If, for instance, we want to decide if ford/Ford in a particular context is an appellative or a name we simply ask the question "Which ford?". If the answer "The ford that is situated under the waterfall" makes sense, it is not a name (Sørensen 1958:125ff., 155f.). This view is partly supported by Christensen and Kousgård Sørensen (1972:9ff.), but they stress that the meaningfulness of such a question depends on the degree of placename competence of the name-users. Thorsten Andersson (1973) in a review of Christensen and Kousgård Sørensen (1972) maintains that some names have a weaker name character than others. Thus according to Andersson *Ängen* 'the meadow' may be a name from the perspective of the people on the farm where this name exists, but the appellative meaning may be uppermost when visitors are faced with this linguistic expression, therefore *ängen* (in the definite form of *äng*). In my opinion we should consider an expression like [ɛŋŋən] *(ängen/Ängen)* either an appellative or a name according to the communication situation. I agree with Terhi Ainiala (1998:45) when she claims that an expression is always either a proper name or an appellative, not both at the same time, and that terms like 'appellative' or 'semi-appellative' names are not very useful from a synchronic point of view. Vibeke Dalberg (1985) introduces the term *homonymy*, which implies that a linguistic expression may have the same oral and written form as an appellative and as a name. An appellative in definite form like *kalvhagen* 'the calf pasturage' may have its toponymic counterpart in the homonym *Kalvhagen*. Kristin Bakken, who supports the view of a gradual lexicalization of placenames, has also examined the degree to which it is likely to count with name-specific phonological development. She concludes that:

> there are some name-specific phonological developments, but… these developments cannot be explained simplistically by referring to a feature ± proper name. Instead I argue that the changes are promoted by the degree of lexicalization in compound names. This agrees with the fact that semantically opaque compound appellatives can undergo the same kind of phonological changes as do compound names, although more infrequently. (Bakken 1997:27)

Another widely disputed issue in onomastics is the extent to which a name has a meaning beyond its reference in synchronic contexts. Here I will confine myself to making a few comments pertaining to the two main approaches to the question:

1. a name has reference, but is empty of meaning;
2. a name is 'brimful' of (connotative) meaning.

It is well known that philosophers like John Stuart Mill (1884) and, in more recent times, Bertrand

Russell (1940) and Sir Alan Gardiner (1954) maintained that names have reference, but are empty of meaning. The latter's often-quoted claim that "the purest of proper names are wholly arbitrary and totally without significance" (Gardiner 1954:19) has been contested by many other scholars, for instance Gottlob Frege (1962), who claims that there is much more to the meaning of a name than simply the object to which it refers. John R. Searle, who does not agree with Frege on all theoretical aspects, comments upon the role of proper names in the following way:

> But the uniqueness and immense pragmatic convenience of proper names in our language lies precisely in the fact that they enable us to refer publicly to objects without being forced to raise issues and come to an agreement as to which descriptive characteristics exactly constitute the identity of the object. They function not as descriptions, but as pegs on which to hang descriptions. (Searle 1969:172)

The precondition for a name must still be that it carries a sufficient number of identifying descriptions agreed upon by a sufficient number of name-users (Vonen 1986:67). It is also reasonable to believe that the meaning of a name depends on the context, differing from one individual to another and from one social group to another. A placename not only points out a place, it also mediates a cluster of qualities and meanings attached to that place, partly valid for a single individual, partly shared by a given social group. "Place-names do refer… [but] they are used and valued for other reasons as well" (Basso 1984:26). I agree with Christopher Tilley when he posits that "place-names are of such vital significance because they act so as to transform the sheer physical and geographical into something that is historically and socially experienced" (1994:18).

Placenames as cultural heritage and identity markers

Placenames may be said to represent the oldest living part of human cultural heritage, in the sense that they have been handed down orally from generation to generation for hundreds or thousands of years at the place where they were coined. They are a special part of the cultural heritage in that they tell us something about the place to which they refer and about the name-givers. Thus they provide important supplements to the history of the places where people settled. Many placenames are also identified with past events and are pegs upon which stories both written and oral can be hung. One can also see geographical names as a reflection of the interplay between humans and nature through different periods of time. Besides, if a person has some meta-linguistic and historic awareness, she may listen to placenames as voices of the past, which in turn may strengthen her sense of place. Thus placenames can function as a textual representation, often in an obsolete language, of the historic landscape.

When one takes into account that many placenames have been coined as descriptions of the area or place in question, it becomes evident that we are dealing with material of immense historic value. Placenames are links to the past, mirrors reflecting various scenarios and activities of the past. More recent names like those of houses, streets, fields and other minor features form a part of our collective onomastic memory and heritage, too. Although many people do not seem to be particularly aware of the historical richness of the placenames in their surroundings they may still feel that the name stock contributes to their rootedness. People who have become acquainted

with the etymological content of names will of course appreciate their history even more. A way of elucidating the historical content of placenames is shown in Figure 1.

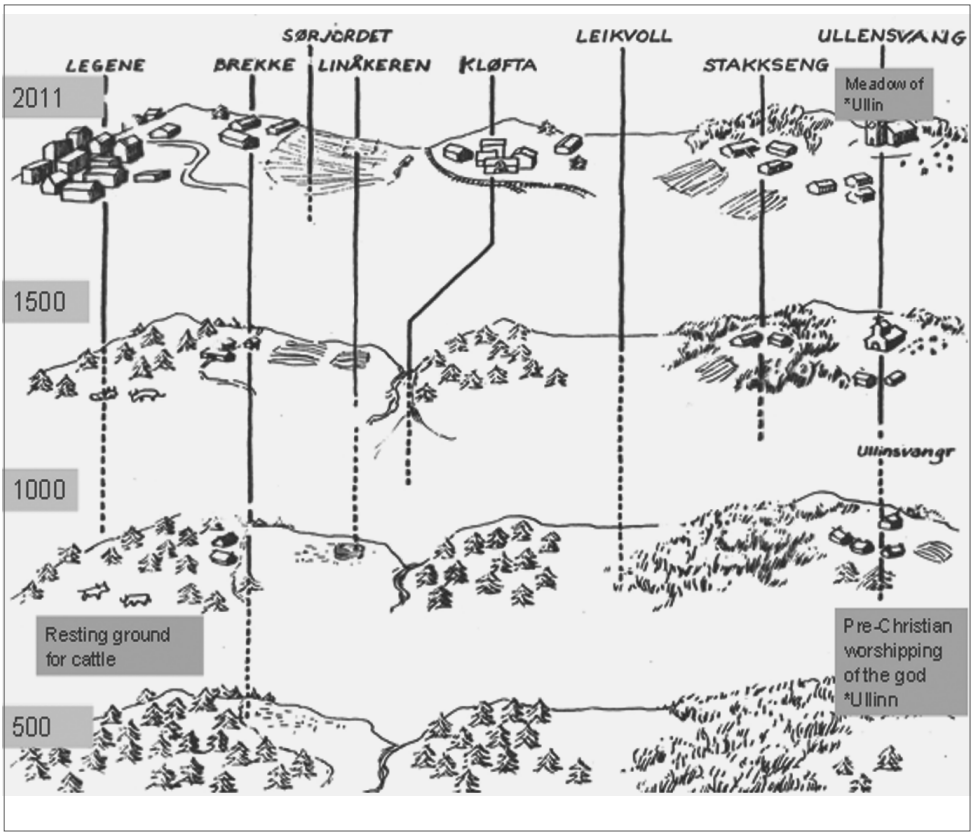

Figure 1: A named historical landscape as imagined at various periods of time. Drawing by the author

At the top of the drawing in Figure 1 a sample of existing placenames is shown, each dating to a more or less distant past. The suggested period of coinage is based on written sources and typological characteristics of the names and of the named places. The vertical lines, moving upwards, follow the passage of time. New names may be coined at any time, as old names sometimes fall out of use and become obsolete. The places to which the names refer are also constantly changing, sometimes unnoticeably, sometimes noticeably, but they may still be considered to be more-or-less the same place. If we look at the names mentioned in Figure 1, it is clear that their referents are something else today than they were in the past. *Legene* on the left is, for instance, used for a settlement which is only a couple of decades old. The etymological meaning of this name is 'the place where the cattle rest', and that is what the name most probably referred to when it was coined.

During a symposium on placename care and planning held in Finland in 1977 a large group of Nordic name scholars acceded to following statement:

> Placenames are an important part of our geographical and cultural environment. They identify localities of different kinds and represent irreplaceable cultural values of vital significance to people's sense of belonging and well-being. (Zilliacus 1978:211, my translation)

Since then similar expressions have been uttered again and again. Still there is a long way to go for many nations to make their vast placenames stocks fully available for the people.

Multi-disciplinary aspects

It is often argued that placenames are not only a source of linguistic knowledge, but also of archaeological, geographical, historical, anthropological, ethnographic, social, psychological and other knowledge, and may be of interest to those and other sciences. In their turn, name scholars may take advantage of data from a broad range of sciences when dealing with and explaining names. However, when applying onomastics to the study of history, geography, society, etc., the name scholar must not forget that he is entering into fundamentally different levels or spheres. His task is to reveal and interpret the linguistic information which is laid down in names. Names belong to the language whereas the places or physical circumstances belong to the 'real world'. Wihelm F. H. Nicolaisen (1990:11) underlines the necessity of having scholarly expertise in onomastics when exploiting the multidisciplinary information in names. Nevertheless there are numerous examples demonstrating the value of such interdisciplinary approaches (e.g. Helleland 1982; Gelling 1990). In fact, a great part of onomastic research is directed towards reading the historical contents of placenames, including the wide range of natural and cultural information that may be inherent in them. In a number of local history books placenames are used to analyse the age and typology of farm names and thereby the relative age of the farms themselves. In most cases the great work Norske Gaardnavne by Oluf Rygh is used, as discussed in the following section.

Placenames research in Norway

The heritage of Oluf Rygh

Modern placenames research in Norway was founded by Oluf Rygh through *Norske Gaardnavne* ('Norwegian Farm-Names'), published from 1897 to 1924 in 18 volumes, one for each county. It gives information on standardized spelling, pronunciation, historical forms and topographical features, as well as etymological and phonological comments on the 45,000 or so medieval farm names of the country. During the 1990s the whole series except the Finnmark volume was digitized. Later generations of placename scholars have profited from this work in the study of settlement names and names of natural features.

Oluf Rygh was originally an historian and an archaeologist, but is primarily known for his fundamental work on Norwegian farm names and other placenames. His onomastic work started in 1878 when he was appointed chairman of a committee that was assigned the task of

a revision of the farm names in the land register. The other members of the committee were the philologist Sophus Bugge and the lexicographer Johan Fritzner. Rygh carried out the main part of the comprehensive and elaborate work of collecting literary forms from medieval sources and from some major fourteenth- and fifteenth-century sources, mainly official documents, cadastres, tax rolls and land registers. He also took on much of the work of collecting information concerning the local pronunciation of the names and the topographical situation of the farms, sometimes by travelling around to visit teachers' seminars and drill grounds where people from different parts of the country were gathered. Then the material was systemized and processed, and a new land register with revised names was published in 1886–87. Rygh continued working on the material on his own initiative and with financial support from the government. After 20 years of unremitting effort, he was able to present a series of manuscripts about each of the 17 counties (except Finnmark, which was worked out later in cooperation with the Saami expert Just Qvigstad). From 1897 these accounts were published in a separate series entitled *Norske Gaardnavne,* the first three and a half volumes published by Rygh himself, the rest by other scholars. The method used by Oluf Rygh, namely the combination of linguistic information found in medieval or later records, local pronunciation and the topographical situation, is still the prevailing one in placename research.

The material in *Norske Gaardnavne* is organized and treated according to municipality. Within each municipality each farm has a number starting with 1. In some cases parts of a farm are mentioned with names and sub-numbers. Each article normally contains the following information: 1) standardized spelling, 2) dialectal pronunciation, 3) old written forms, 4) explanation with reference to Old Norse modern Norwegian words (see Figure 2).

Recent settlements names studies

Fifty years after the publication of *Norske Gaardnavne* the Norwegian Place-Names Archives applied to the Norwegian Research Council for grants in order to prepare a revised and extended edition including all sorts of settlement names older than around 1910. The Research Council granted considerable amounts of money during the 1950s and 1960s and, after comprehensive field work and excerpting of censuses and other sources, one scholar started to assemble the manuscript for the new edition. So far about half of the expected 20 volumes have been published in the series of *Bustadnavn i Østfold* (BØ), and only for the county of Østfold. If the same speed and the same scrutiny is maintained, it will take a century or more to cover the whole country. However, it is not a matter of course that the necessary means will be allocated for similar projects in the remaining 17 counties.

Farms and fanes

Although it is a still disputed issue, about 500 Norwegian placenames are considered to contain information on pre-Christian religious activity (Sandnes 1992). The pioneer in this field was Magnus Olsen who published several works on the topic, the most important one being *Hedenske kultminder i norske stedsnavne* ('Heathen sanctuaries in Norwegian placenames', 1915), a title which underlines his theory that heathen sanctuaries were attached to old, centrally-situated farms (Olsen 1926, 1928). He also showed that the churches were often built on the sites of the heathen

106. Pyt. Udt. *pytt.* — i Pytt (østre) RB. 168. i Pyrt (!) (vestre og østre) RB. 217. i Hæmmings Fyt (!) RB. 167 s. i Hæmminghs Pyt DN. V 301, 1402. Pøtt NRJ. I 25. Pødtt 1578. Pøtt 1593. Pytt 1604.$^{1}/_{1}$. 1612. Pydt med Tejen 1723.

Pyttr m., Vandpyt. En Part sees tidligere at have været kaldet efter en Eier af Navn Hemming (Hemingr).

106, 3. Teig. Udt. *tei.* — i Tæigh (nordre og søndre) RB. 164. af Tæighi RB. 259.

Teigr m., se Indl.

106, 7. Torget. Udt. *tǫ́rrje.*

Se Spydeberg No. 27, 6.

106, 9. Torerud. Udt. *tó'ƀru.* — Þororud RB. 270.

Þóruruð, af Kvindenavnet Þóra.

106, 10. Hungerholt. Udt. *hu'ngerhølt.*

Oftere forekommende Navn paa Smaaparter fra senere Tid; er et af de ikke sjeldne Navne af nedsættende Betydning, jfr. Rakkestad No. 46, 10.

107. Fykerud. Udt. *fø'keru.* — Tygerud (!) 1723.$^{1}/_{4}$.

Betydning ukjendt; maaske temmelig nyt Navn.

108. Biltveten. Udt. *bi'lltvetten.* — Billttued 1593. Billtuedenn 1604.$^{1}/_{1}$. Bildtued 1612. Bildtwetten (Pl. Stubberud) 1723.

1ste Led mulig Mandsnavnet Billi, som er omtalt ovenfor S. 125. Vel opr. Part af den følgende Gaard.

109. Tveiten. Udt. *tvei'ten.* — a Þueitene DN. III 422, 1405. Tweden NRJ. I 25. Tueden 1593. Thuedenn 1604.$^{1}/_{1}$. Tueden 1612. Twetten 1723.

Þveitin, bestemt Form af þveit f., se Indl.

110. Hauger. Udt. *hau'ĕr.* — Houger 1723.

Haugar, Flt. af haugr m., Haug, Høide.

111. Skjør. Udt. *sjør.* — i Stiore RB. 170. a Stiore DN. X 153, 1449 (trykt efter Afskrift fra 17de Aarh.). a Stioro DN. V 642, 1475. Skiør 1593. 1604.$^{1}/_{1}$. 1612. Schiør 1723.

* Stjórr m. Lydlig er Navnet ens med stjórr, Sideform til þjórr, Tyr; men af hvilken Grund dette Navn kunde være brugt som Gaardnavn her, er usikkert. Man synes at have samme Ordstamme i Stjórudalr, som der vist maa læses istedetfor Stjorndalr i BK. 24 a (Søndfjord), i Skjør i Bjørnør og i Stjóradalr (opr. Stjórardalr eller Stjórudalr?), nu Stjørdalen ved Trondhjem. I det sidste Tilfælde, ligesom ogsaa vel i det første, er 1ste Led udentvivl et af Stammen dannet Elvenavn.

111, 2. Banken. Udt. *ba'nken.*

Se Askim No. 53, 19.

112. Skjørshammer. Udt. *sjø'ssammĕr.* — i Stiorshamre RB. 491. 498. Skiørƀhammer St. 33 b. 1593. 1612. Skiørshammer 1604.$^{1}/_{1}$. Schiørshammer 1723.

Stjórshamarr. Ligger paa en udenfor Skjør i Glommen fremspringende Høide (Hammer).

112, 4. Brattaas. Udt. *bra'ttås.*

Figure 2: Page from *Norske Gaardnavne* 1. Municipality of Eidsberg, County of Østfold

the sanctuaries after the introduction of Christianity. In many cases the heathen name was transferred to the church, for instance in Ullensvang in western Norway, where the first element is supposed to be the heathen god's name *Ullinn* (Helleland 1998); see also Figure 1.

Hydronyms

During his work on *Norske Gaardnavne* Oluf Rygh also collected river names, many of which are obsolete, but still used as parts of settlement names, for instance *Lærdal*, where the first element *Lær-* reflects an obsolete river name (Elmevik 1998). After Oluf Rygh's death his brother Karl Rygh published the alphabetical collection of river names in one volume (1904). Another collection of river names has been published by Per Hovda (1996). Theoretical and methodological problems related to river names have been discussed in a number of articles (e.g. Særheim 2001; Strandberg 2002; Helleland 2004). The systematic study of lake names started with Gustav Indrebø, who collected and explained the lake names in the counties of Oppland (1924) and Buskerud (1933). At the end of the twentieth century Kjell Venås continued the study of lake names and published the material from the counties of Hedmark (1987) and Telemark (2002). With respect to the remaining 14 counties there is no ongoing project. However, for both groups a number of articles on single names have been published in various publications (e.g. Stemshaug 1997; Helleland 2008)

Names of fjords, islands and mountains

So far no monographs have been published on these three name groups. At an early stage of his placename research Oluf Rygh wrote a comprehensive article on fjord names (1896), in which a number of the largest fjord names are treated and partly explained. Oddvar Nes has continued the study of fjord names (e.g. 1997a) and also contributed to the study of island names (for a survey; see Nes 1997b). As to mountain names, many of them have been explained in single articles and in regional placenames books. It should also be mentioned that the most well-known names of natural features, as well as of towns and districts, are listed and explained in *Norsk stadnamnleksikon* (NSL).

Microtoponyms

A large number of names of minor features, such as field names and names of hills, valleys, woods, marshes and so on, have been collected and treated in more than 120 Master's theses, each containing 1,000 or more names. In addition, tens of thousands of microtoponyms have been collected by local people around the country. Over the last decades a number of courses have been held by name scholars at local historical associations to demonstrate collection methods. As a result, several placename dictionaries have been published in recent years. A long-term plan is to establish a comprehensive placenames database covering as many as possible of the Norwegian placenames, including microtoponyms (see below).

Collection and management

When the Norwegian Place-names Archive was founded in 1921, the aim was to collect and store placenames as research material for the study of the country's historical topography and thus follow up the results of Oluf Rygh. Both written and oral sources were exploited and gradually a large collection of card files was built up. In 1978 the institution became a department at the

University of Oslo. Gradually the available resources have been reduced, but the collection of microtoponyms has continued locally through historical associations, partly under the supervision of persons with a scholarly background. Since the 1990s a large part of the material has been digitized and increasingly made accessible online. Also a method of mapping microtoponyms digitally has been developed.

The most important placenames collections are situated at the University of Oslo, but there are also important collections worked on by name scholars at the universities of Bergen (founded 1946), Trondheim and Tromsø (both founded 1968), as well as at the Kven and Saami institutions in Alta and Guovdageaidnu/Kautokeino. Furthermore, three counties, namely Sogn og Fjordane, Møre og Romsdal and Nordland, have built up separate comprehensive placenames collections. It should also be mentioned that a number of municipalities around the country are working on establishing their own local placenames archives. Notwithstanding the good intentions of the various projects, the lack of qualified manpower is an urgent problem.

Digitizing

Since the foundation of the universities outside Oslo there has been close cooperation among the various institutions in the field of name research, involving teaching as well as collection and filing of placenames. For many years the goal of each institution was to build up regional card files on paper, but in the 1980s new data processing technology was introduced and a liaison committee came up with an ambitious plan called *Norsk stadnamnbase* ('Norwegian placename database') aimed at storing and disseminating electronically most of the Norwegian placenames within a common structure. Each name should be entered in the database containing fields for standardized form, pronunciation, feature type, historical and other information, name of the field worker and date of collection, name and age of the informant, and map coordinates. Sound and pictures of the name and place in question could be supplementary information. Even though the various institutions developed their own methods and software programs the structure is very much the same, and during the last few years the scholars involved have come to an agreement to look for a joint solution on a national level. The main idea is to access not only the placename archives but also other databases containing placenames like the one kept by the Mapping Authority of Norway (see Ore 2009:39). The graphic figure overleaf gives an idea of the structure.

Online access

Currently several databases are accessible on the internet. The Mapping Authority gives access to its placename register of nearly one million entries via map location and administrative unit.[2] At the University of Oslo an online database containing the main placenames collections has been established.[3] By typing for instance "Duk" in the box for "*oppslagsform*" (citation form

2 http://kart.statkart.no/adaptive2/default.aspx?gui=1&lang=2 (accessed 2 June 2012).

3 http://www.edd.uio.no/perl/search/search.cgi?appid=93&tabid=1383 (accessed 2 June 2012).

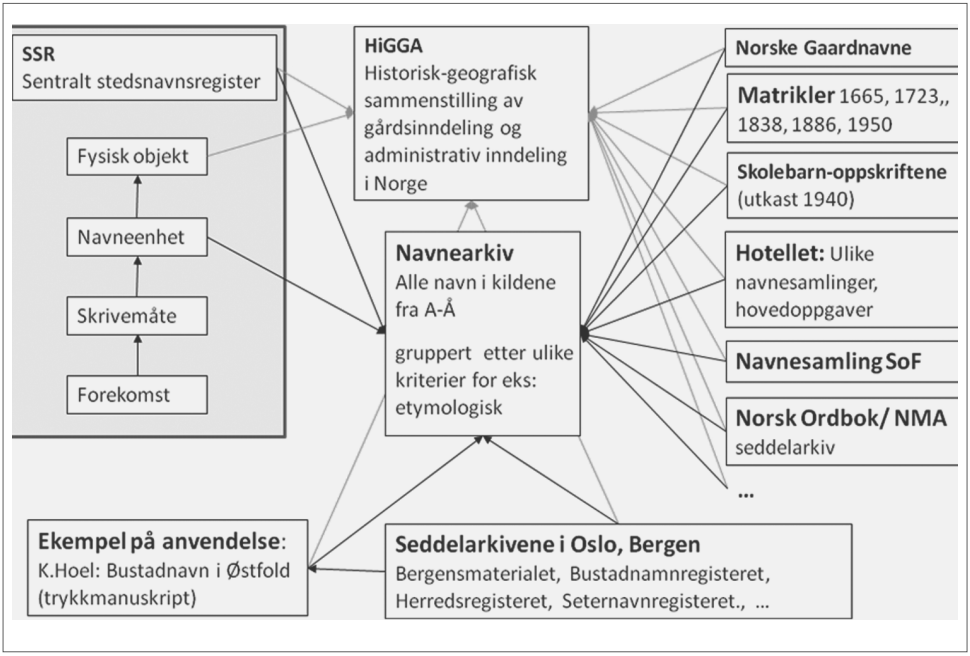

Figure 3: Schematic representation of the coordination of inter-related placename databases. Drawing by Christian-Emil Ore

of placename) one gets four hits with references to administrative location and to which part of the archives the names belong. Another database, *Etymologiregisteret* (the etymological register)[4] gives information on where in the literature a certain name is explained or discussed. At the University of Bergen about 65,000 names are entered into a regional database.[5] It also contains sound files of the pronunciation. By, for instance, typing the name 'Bakken' in the box for *normert form* (standardized form) and selecting the municipality of Askøy one gets eight hits shown on the map. By clicking *Lyd* (sound) at the bottom of the right-hand side of the screen picture, the local pronunciation of the name will be reproduced. Another online placename database under construction is meant to cover the 26 municipalities of the county of Sogn og Fjordane, approximately 250,000 names in total. The project is currently adding supplementary sound, picture and other relevant information attached to the name.

4 http://www.edd.uio.no/perl/search/search.cgi?appid=20&tabid=589 (accessed 2 June 2012).

5 http://gandalf.uib.no/cgi-bin/stadnamn/lydkart/stadnamn-kart-lyd.py (accessed 2 June 2012).

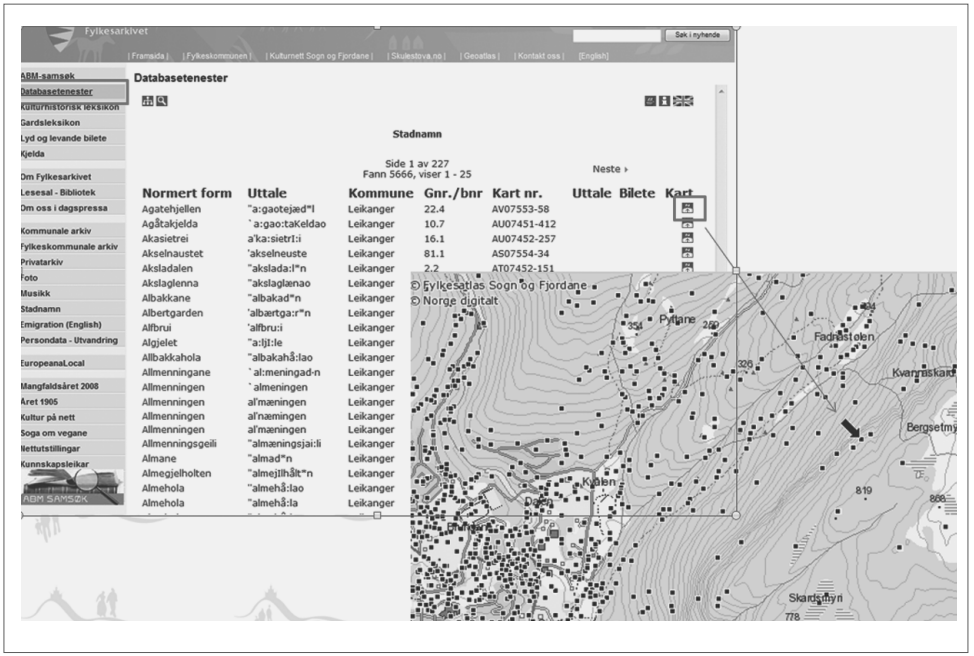

Figure 4: Table showing a selection of placenames and how the first name may be represented on a map. Material supplied by Fylkesarkivet, Sogn og Fjordane

The various regional placename databases constitute the above-mentioned Norwegian placename database. In spite of the differing approaches, it is expected that they will be accessible through a joint url-address in the not-too-distant future.

Standardization of placenames

Since the 1870s the Mapping Authority of Norway has made use of placenames consultants. The first regulations on standardization were issued in 1913, and these were revised several times up to 1958. The leading principle implied replacement of the Danish spellings by a spelling based on the local dialect and in line with spelling principles in Norwegian. In 1990 a law on the spelling of placenames was laid down, adopting the main principles of the earlier regulations. Placenames consultancies, administered by the Norwegian Language Council, were established and situated at each of the four universities. In spite of decentralization the consultancies work along the same lines. The consultancies give advice on naming and spelling to the Mapping Authority, which decides on most placenames, except street names, which are the responsibility of the municipalities.

Conclusion

Though much has been achieved since the onomastic scientific activity started in the last decade of the nineteenth century, placename research in Norway still has a long way to go. As we have seen, a number of monographs on names of natural features, as well as revised volumes of settlement names, are waiting for their realization. It is hoped that the future will be more generous in this field than is the case today.

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Swedish Placename Research Yesterday and Today

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Abstract. From of old placename research has occupied an important place in Scandinavian studies in Sweden. Modern Swedish onomastics has its starting point in the early twentieth century.

In order to produce a Swedish counterpart to the series *Norske Gaardnavne* ('Norwegian Farm-Names'), Kungl. Ortnamnskommittén ('The Royal Placename Committee') was set up in 1902. The committee was commissioned to provide for research work on the names of villages and farms as well as of important mountains and large forests, lakes and tracts of land. The launching of the work *Sveriges ortnamn* ('The Placenames of Sweden') was of decisive importance for future progress. The working material for this project soon developed into the world's most comprehensive placename collection, the present Namnarkivet i Uppsala ('The Institute of Placename Research', a part of the Institute for Language and Folklore, Uppsala).

At an early stage Jöran Sahlgren joined the committee, and in due course he became its leading figure. In 1913 he started the journal *Namn och bygd* ('Names and Settlement'), the oldest and for a long time the only scholarly placename journal in the world. In 1930 a chair of Scandinavian placename research was set up in Uppsala specifically for him. Sahlgren's time as professor (until 1950) represented a period of expansion without equal in Scandinavian placename research. The main lines were drawn up, and these are still valid. Of fundamental importance is the examination of the elements in placenames, their meanings, distribution and age. Field studies play an important part.

The period that followed was one of consolidation but in recent times also of renewal. One result of a successful collaborative venture between the Department of Scandinavian Languages (Uppsala University) and the Institute for Language and Folklore is *Svenskt ortnamnslexikon* ('The Swedish Placename Dictionary'), published in 2003 as the first Swedish dictionary of its kind.

The public at large are extremely interested in both the spelling and the origins of placenames. To respond to this and to make the placename collections more widely available, the Institute for Language and Folklore is computerizing the material in its care. Almost four out of ten million index cards have now been scanned and are accessible on the internet (www.sofi.se), opening the way for future research. In addition, the National Land Survey's placename database will function as a national placename dictionary. To meet the demand for access to placename information the Land Survey has on its home page an internet service (www.lantmateriet.se) called *MapSearch and place-names,* which will give authorities, organizations and the general public easy access to the officially approved placenames.

Keywords: Sweden; toponomastics; archives; publications; standardization

The history of placename research in Sweden goes back to the eighteenth century, but modern Swedish onomastics has its starting point in the early twentieth century.

The Royal Placename Committee

The Royal Placename Committee *(Kungl. Ortnamnskommittén)* was set up in 1902, with the linguist Adolf Noreen as the driving force. The committee was commissioned to provide for official research work on the names of villages and farms as well as of important mountains and large forests and lakes. The launching of the work *The Placenames of Sweden (Sveriges ortnamn)* was of decisive importance for future progress. In a way, Norway is to be credited with having realized that placename research is a concern of the state. The series *Norwegian Farm-Names (Norske Gaardnavne),* launched in 1897, was an obvious forerunner and model for the work to be undertaken in Sweden.

The Placename Committee chose the county of Älvsborg in south-west Sweden as its first area of investigation, and material began to be collected there. Within just four years of the launch of the project, three volumes of the sub-series *The Placenames of the County of Älvsborg (Ortnamnen i Älvsborgs län)* were published, forming part of the overall series *The Placenames of Sweden.* Preliminary manuscripts for the first 17 volumes were prepared up to 1916, and ten years later the first six volumes of another sub-series, *The Placenames of the County of Värmland (Ortnamnen i Värmlands län),* had appeared. All these volumes were anonymous and were published by the Committee. The reason for this is probably that the manuscripts, although written by individual authors, were also thoroughly checked and revised by the members of the Committee. These publications can thus be characterized almost as official reports, whose accuracy was guaranteed by the state. The main purpose of the series seems to have been to function as an aid to the national administration in correcting the spelling of the names in various official registers, where many names were incorrect and misleading. The name-forms were checked and, where appropriate, corrected by the Placename Committee and confirmed by the government. The material was presented following the old administrative division of the country into parishes *(socken),* jurisdictional districts *(härad)* and counties *(län).*

In the early years, the volumes of *The Placenames of Sweden* appeared at frequent intervals, no fewer than 28 volumes being published between 1906 and 1919. After that, however, the pace of publication slackened. So far, issues on 13 counties have been published, including complete sub-series for the counties of Halland, Skaraborg, Värmland and Älvsborg. As the work has continued, a rather strict model to present the material has been established. The presentation of older spellings is highly formalized with a great number of abbreviations. However, the most recently published volumes of the series contain relatively few abbreviations in running text, the style is less condensed and easier to read (Wahlberg 2002).

Regional series

The first volume of the second official placename series in Sweden, *The Placenames of the County of Göteborg and Bohus (Ortnamnen i Göteborgs och Bohus län),* was published in 1923 by the Institute of

Placename and Dialect Research (established already in 1917) at the University of Gothenburg. The material is arranged in the same way as in *The Placenames of Sweden*, according to the old administrative system of the county, but this series is more comprehensive. In addition to names of farms and villages, a large number of subsidiary smallholdings are treated. Minor names, field names and nature names are also included.

In 1958 the Placename Society for Southern Sweden *(Sydsvenska ortnamnssällskapet)*, in association with the Institute for Dialect Research in Lund *(Landsmålsarkivet i Lund)*, published the first volume of Sweden's third official placename series, *The Placenames of Skåne (Skånes ortnamn)*. The names are published in two sub-series, one for settlement names and one for minor names and field names. The coverage and the manner of presentation do not differ very much from those mentioned before. In this series, too, a large number of names of smallholdings are presented. Somewhat later, in the 1980s, the series *The Placenames of Upper Norrland (Övre Norrlands ortnamn)* was launched by the Institute of Dialectology, Toponymy and Folklore Research in Umeå (Wahlberg 2002; Brylla 2005).

Jöran Sahlgren and his legacy

At an early stage Jöran Sahlgren, one of Noreen's disciples, joined the Placename Committee, and in due course he became its leading figure. The further development of Swedish placename research is intimately associated with him. In 1913 he started the journal *Names and Settlement. Journal of Scandinavian Placename Research (Namn och bygd. Tidskrift för nordisk ortnamnsforskning)*, the oldest and for long the only scholarly placename journal in the world, this year appearing with its 100th volume.

As a part of the Committee's work the Swedish Placename Archives *(Svenska ortnamnsarkivet)* was founded in 1928 in Uppsala with Sahlgren in charge.[1] At first the main task of this new institution was to collect placenames, old spellings, pronunciation and information about the names, recorded on the spot. From the 1930s onwards a tremendous amount of work was done in this area. The material was to develop into the world's most comprehensive collection of placenames. In 1930 a chair of Scandinavian placename research was set up in Uppsala specifically for Sahlgren, who established the Seminar for Scandinavian Placename Studies, today a section of the Department of Scandinavian Languages at Uppsala University. His time as professor and head of the Archives (until 1950) represented a period of expansion without equal in Scandinavian toponomastics. The 1930s and 1940s have been called the golden age of placename research in Sweden. A series of doctoral theses and other major works and a great number of articles were published, and during this period the main lines were drawn up, and these are still valid.

1 The Royal Placename Committee was dissolved in 1930 but was immediately reorganized as The Royal Placename Commission *(Kungl. Ortnamnskommissionen)*, which administered the Swedish Placename Archives. In 1970 the duty of the Commission was taken over by the Archives, today named the Institute of Name Research, Uppsala *(Namnarkivet i Uppsala)*.

Sahlgren stressed the need for strict methods and for knowledge about the historical and topographical background of placenames, their meanings, distribution and age.

Field studies of toponyms played and play an important part (Moberg *et al.* 1976). Given the often interdisciplinary character of toponomastics it has been natural for today's researchers to establish contacts with colleagues working in non-linguistic fields such as archaeology and human geography. A great many regular seminars for graduates are held every year at the Seminar, with lectures on a variety of subjects, followed by discussions. Students present doctoral research in progress, but there are also many other speakers. In the Department of Scandinavian Languages, onomastics is taught at all levels. The first-term undergraduate course in Scandinavian languages includes compulsory onomastic elements (Strandberg 2010). Since Sahlgren, the chair in onomastics has been held by six professors. Thorsten Andersson held the chair from 1971 to 1994 and played a very important role in Sweden and Scandinavia. During his time NORNA (The Nordic Cooperation Committee for Name Studies, *Nordiska samarbetskommittén för namnforskning)* assumed considerable importance; Andersson was one of its founders and devoted a great deal of time and effort to its work. Of particular significance was the Nordic project Placenames and Society *(Ortnamn och samhälle),* starting with a NORNA symposium in 1975. The seventh Nordic congress of name researchers in 1976 also served as a preparation for the project.

Cooperation

NORNA is an association of Nordic scholars specializing in research into names. The committee was established in 1971 as an executive body for the congresses devoted to name research. Its aims are to promote onomastic research in the Nordic countries and cooperation between Nordic scholars. In the intervals between congresses, the committee has a coordinating function. There are six members of the committee, representing Denmark, Finland, the Faroe Islands, Iceland, Norway and Sweden. Under the auspices of the committee, onomastic congresses are held, usually at five-year intervals, and symposia are arranged on varying topics. The papers read at the congresses and symposia are normally published in the series *NORNA-rapporter.*

On behalf of the International Council of Onomastic Sciences (ICOS), the 21st International Congress of Onomastic Sciences was organized at Uppsala, Sweden, August 19–24, 2002 by the Institute for Language and Folklore *(Språk- och folkminnesinstitutet, SOFI)* in cooperation with Uppsala University and the Royal Gustavus Adolphus Academy for Swedish Folk Culture.

In 2003 the Swedish Placename Dictionary *(Svenskt ortnamnslexikon)* was published by the Institute for Language and Folklore. This first lexicon of its kind is the result of a cooperative project between the Institute and the Department of Scandinavian languages at Uppsala University. It is intended for the general reader and contains brief etymologies for approximately 6,000 placenames in Sweden (including Finnish and Saami placenames), written by scholars from the two institutions.

The Institute for Language and Folklore is a Swedish government agency with a focus on dialects, language policy, language planning, names and folklore. The Institute's collections, which document major components of Sweden's intangible cultural heritage, are open to members of the public,

students and researchers. The Institute has five offices in Sweden, with the head office in Uppsala where today's Institute of Name Research *(Namnarkivet i Uppsala)* is the successor of the Swedish Placename Archives. As far as placenames are concerned the Institute for Language and Folklore is the successor to the Placename Committee/Commission (PNC) and thus an authority that now celebrates its 110th anniversary.

Standardization

The primary task of the PNC was to organize and carry out a systematic investigation of toponyms in Sweden, but it was also to be an organ for the regulation of placenames. From the very beginning it was the names in the old real estate registers *(jordeböcker)*, dating back to the sixteenth century, that were to be standardized. A modern register *(jordregister)* was to be established from 1908 onwards. It was based on the old registers as regards property division and names, so the timing was good: a new type of real estate register and a necessary revision of its names simultaneously.

Quite early it became evident that the majority of standardization matters that the PNC had to deal with were those related to the official Swedish maps. The first topographical map with a total coverage of Sweden was the Ordnance Survey map, which became public in 1857. From 1904 the PNC was involved in checking the names on the map sheets before they were published by the Geographical Survey Office *(Rikets allmänna kartverk)*. In the first sheets that were studied about 50 per cent of the names were estimated to be incorrect in some way.

The Swedish spelling reform of 1906 and a Royal Ordinance on placenames adopted in 1927 *(Kungl. Maj:ts kungörelse angående stavning av ortnamn i officiella handlingar)* formed the basis for this work. The ordinance stated that all official placenames were to be spelt according to the rules of the Word List of the Swedish Academy. It was mainly up to the PNC to formulate guidelines, thereby setting a standard that lasted for the whole of the twentieth century. When the Commission was dissolved in 1970 its successors applied the same norms. The main principle has been that the spelling of placenames should follow the general rules of Swedish. Today placenames are also considered from a cultural-historical point of view by the National Heritage Board *(Riksantikvarieämbetet)*, as a result of the discussions concerning a reform of the real estate registers around 1970.

Since July 2000 a paragraph on 'good placename practice' *(god ortnamnssed)* is included in the Swedish Heritage Conservation Act. It is referred to as a due consideration provision, which gives priority to established names, but also demands respect for correct linguistic forms, including those applying to the minority languages of Saami and Finnish (Nilsson 2002; Nyström 2007).

Internet services

There is also a third task, which is to promote a wider awareness of placenames and placename research. Over the course of more than a hundred years, official placename research has attracted growing interest from the general public. The public at large are extremely interested in both the spelling and the origins of placenames. To respond to this and to make the placename collections more widely available, the Institute for Language and Folklore is computerizing the material in

its care. Almost four million index cards have been scanned and are accessible on the internet (www.sofi.se), opening the way for future research (Brylla 2005).

In addition, the National Land Survey's (NLS, *Lantmäteriet*) placename database will function as a national placename 'dictionary'. To meet the demand for access to placename information, the NLS has on its home page (www.lantmateriet.se) an internet service called *MapSearch and place-names*, which will give authorities, organisations and the general public easy access to the officially approved placenames. As a consequence of the placename consideration provision (§ 4) in the Heritage Conservation Act, the NLS is making all the standardized placenames available for official use. This will hopefully be of help to all those engaged in various placename activities. There are more than one million placenames on the sheets of the Swedish national map series and in the national placename database. This placename database also contains names in the minority languages Finnish, Meänkieli and Saami, written in their official orthography (Nilsson *et al.* 2008).

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Digital maps and other data as tools for onomastic research

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Abstract. Investigating the background of placenames requires knowledge about not only language but also other factors that have affected the birth of names, their changes and replacement. A name cannot be analyzed without determining its age and defining the location and environment of its source name. To determine the age of a name, we need, for example, historical documents and old maps; and to analyze the contents of a name, we need to consult dialect collections and dictionaries to find information about the local vocabulary at different times. Even if different names contained exactly the same words, names that look similar and have similar lexical contents, for example, homonyms, may have totally different backgrounds.

Ever since the 1990s, onomasticians have had access to old written documents and maps of various ages in digital format. For example, the National Land Survey made the Basic Maps of Finland freely accessible to the public on the net in 1996. The nationwide names data in the maps was compiled into a Placename Register that contains some 800,000 place names connected with their possible parallel names, information on the language of the names, the type and location (coordinates, administrative units at different levels) of the named features, and it enables searches using parts of the names; thus, it provides a significant database for the compilation of various basic corpora and the linguistic comparison of the names. The map service also includes aerial orthophotos.

In this paper, I will show, with a few examples, how this material and these search options have been used in Finnish placename research. The examples cited are the editing of the national Finnish placename dictionary and a couple of doctoral theses in the field.

Keywords: placenames collections; Finland; digital archives; toponomastics; distribution maps; semantics; nearby names

Introduction

Investigating the background of placenames requires knowledge not only about language but also other factors that have affected the birth of names, their changes and replacement. A name cannot be analyzed without determining its age and defining the location and environment of its source name. To determine the age of a name, we need, for example, historical documents and old maps; and to analyze the contents of a name, we need to consult dialect collections and dictionaries to find information about the local vocabulary at different times. Even if different names contain exactly the same words, names that look similar and have similar lexical contents, i.e. homonyms, may have totally different backgrounds.

Names Collections

National placenames collections are part of the traditional data used by every onomastician. In Finland, the collection of placenames was initiated in 1878. In the beginning – in the spirit of cultural nationalism that prevailed at the time – the collection centred on names that were considered helpful in investigating ancient living conditions, the history of settlement or the structure of language.

In 1915, it was generally accepted that the collection work should cover all placenames. Since then and especially since the 1960s, placenames have been collected systematically by interviewing locals and using maps for assistance. The collected names have been recorded together with, for example, their dialectal forms, location, the feature type, and inherited knowledge related to the names. As a result of the collection, there is a total of over 2.6 million name card files representing Finland and its immediate areas in the Names Archive of the Institute for the Languages of Finland, to be used for the purposes of placename standardization and research. The collections are organized in alphabetical order, both as a whole and by municipality. The Names Archive also contains collections of Swedish and Saami names. These multilingual collections are important, for example, when analyzing loan names or bilingual placenames in linguistic border regions. Even the placenames on the basic map of the scale 1:20,000 have been checked against these collections.

Many placenames include personal names. The Names Archive also contains document name collections, collections of personal and placenames from the sixteenth and seventeenth centuries, together with collections of first names, last names and hypocorisms from the twentieth century. The personal name data stored by the Population Register Centre is available in digital format and a section of it, stored at the Institute for the Languages of Finland, covers the entire living population from the 1960s to the year 2002.

Toponomastic research

In Finland, toponomastic research started from the analysis of lexical elements included in names. The first doctoral dissertation on placenames was published in 1935 (Westman), concerning the Swedish island names of the Finnish coastal area, while the next one handled the Finnish placenames in the Vuoksi waterway region on the Karelian Isthmus (Nissilä 1939). As the archived data accumulated, the comparative data increased, too, and syntheses made on the basis of the lexical and semantic contents of the names started to emerge. Researchers began

investigating the names of natural features and the distribution of name types and name-elements. The research also covered settlement names and aspects related to settlement history; loan names and linguistic border regions were studied, as well as the changing of placenames, naming patterns and their distribution. Before categorizing the names and analyzing their structure, the actual contents of the names and the most likely basis for naming needed to be analyzed. However, the manually produced data in alphabetical order was not as useful for the conducting of different searches as the current digital corpora.

Ever since the 1990s onomasticians have had access to old literary documents and maps in digital format. The National Land Survey of Finland made the Finnish basic maps available to the general public on the internet in 1996. The name data included in the maps was used to compile a Placename Register, containing some 800,000 placenames. Since the possible parallel names are connected to each other in the Placename Register and it contains information not only about names but also about the language of the names, the feature types of the places and their location according to the geographical coordinates and administrative areas of different levels, it also enables searches according to name-elements, offering significant data for the compilation and classification of various source corpora, and a linguistic comparison of names. The map service also contains ortophotos of the whole country.

In this paper I will be discussing, in the light of some examples, how these data and search options have been used in Finnish toponomastics. My examples include the edition process of the national placenames dictionary and a couple of doctoral dissertations.

Suomalainen paikannimikirja **[The Placenames Dictionary of Finland]**

The *Placenames Dictionary of Finland* is the first national etymological book on placenames in Finland. It was published in 2007. This dictionary sheds light on the backgrounds of *c*. 4,700 placenames: it covers all the municipalities of the time the book was published, plus the municipalities that had existed before, some of the significant places of settlement, some of our largest lakes, highest fells, and other well-known natural and cultural features. It was targeted at the general public, often asking what a given name *means.* Thus, the starting point was *individual;* what was considered essential was a certain place and the name and background of that place in particular, instead of name typology.

In evaluating the importance of a name and how widely known it was, different reference works, lists of cultural and natural features, travel literature and maps were used; and the list was supplemented with names whose background had been asked about frequently. The name register of the National Land Survey map of the scale 1:100,000 (200,000 names) was used as comparative data, and the importance of the features on the map was rated on the basis of the font size used in the names: the font size used to mark geographically wide areas and administratively significant places was bigger than that of the less important places and it was indicated in the register in numeric form.

This was the basis for the compilation of provincial and municipal name lists where the number of names was presented in proportion to the surface area, number of inhabitants, linguistic relations, and the distribution by toponymic feature of the placenames in each of the areas. Since the book was to be national, Finnish, Swedish and Saami names were included.

Whilst writing the name articles of the *Placenames Dictionary of Finland*, digital data were also used; and they have become much more extensive ever since. Historical documents have been digitized and indexed by, for example, the National Archives of Finland (which includes an extensive digital archive:[1] personal and place names of the mediaeval sources;[2] personal and place names from Käkisalmi (Priozersk), Karelia in the seventeenth century;[3] maps;[4] a general catalogue of settlement in Finland in the sixteenth century;[5] a collection of a large number of placenames in Satakunta province from 1303 to 1571[6]), the Finnish Genealogical Society[7] (the historical records of the church records from the late seventeenth century onwards), the Karelia Database Foundation[8] (a search engine covering the church records of the parts of Karelia ceded to Russia), Finland's Family History Association[9] (including the main records of the church records, some judgement records, and tax records), the National Library of Finland[10] (including placename searches covering 1.7 million pages of Finnish newspapers between 1771 and 1910) and the Institute for the Languages of Finland (presentation of the Placenames Bank;[11] the search site of the Placenames Bank;[12] an Atlas of Finnish Placenames;[13] web publications of the land register of the province of Savolax from the sixteenth and seventeenth centuries;[14] a dictionary of Swedish-language placename elements, *Namnledsleksikon*).[15] These data contain personal names and settlement names, together with other placenames and maps.

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1 http://digi.narc.fi/digi/?lang=en_US (accessed 26 March 2012).
2 http://extranet.narc.fi/DF/index.htm (accessed 26 March 2012).
3 http://www.narc.fi/Arkistolaitos/tma/kaki/ (accessed 26 March 2012).
4 http://kronos.narc.fi/karttahaku/ (accessed 26 March 2012).
5 http://www.narc.fi/Arkistolaitos/SAY/ (accessed 26 March 2012).
6 http://www.narc.fi/suvanto/ (accessed 26 March 2012).
7 http://www.genealogia.fi/hiski.html (accessed 26 March 2012).
8 http://www.karjalatk.fi/katiha/index.php (accessed 26 March 2012).
9 http://www.sukuhistoria.fi/sshy/index_eng.htm (accessed 26 March 2012).
10 http://digi.kansalliskirjasto.fi/index.html?language=en (accessed 26 March 2012).
11 http://scripta.kotus.fi/www/artikkelit/toponyms.html (accessed 26 March 2012).
12 http://www.kotus.fi/index.phtml?s=353 (accessed 26 March 2012).
13 http://kaino.kotus.fi/nikar/index.php (accessed 26 March 2012).
14 http://scripta.kotus.fi/www/verkkojulkaisut/julk19/;
http://scripta.kotus.fi/www/verkkojulkaisut/julk4/;
http://scripta.kotus.fi/www/verkkojulkaisut/julk2/;
http://scripta.kotus.fi/www/verkkojulkaisut/julk20/ (accessed 26 March 2012).
15 http://kaino.kotus.fi/svenska/ledlex/ (accessed 26 March 2012).

Digital data make it considerably easier to, for example, find the old spellings of names, date the names, follow the changes in the topography of a place, find the root name and its original denotation and detect personal names possibly included in a placename. The Historical Newspaper Library, which presently covers all Finnish newspapers until 1910, enabled the authors of the *Placenames Dictionary of Finland* to detect the appearance of Finnish parallel names for places in the Swedish-speaking or bilingual coastal areas. There are no other data available that would reveal the adoption of Finnish names parallel to the Swedish ones as clearly as the newspaper library. The data it offers have revolutionized ideas about this particular group of placenames; in fact, the Finnish names used to be considered much younger and artificially created.

Individual names

Whilst analyzing an individual name, it is often necessary to analyze the backgrounds of other similar names. The Map Site of the National Land Survey[16] offers the opportunity to look up the distribution of a maximum of two hundred placenames containing the same element on one map. The name of an individual place is easy to find directly on the Basic Map whilst viewing the terrain of the place and the nearby names at the same time. The digital Placename Register enabled the authors of the *Placenames Dictionary* to accurately look up all the names by using geographical coordinates and to draft printable distribution maps on their basis.

For example, the etymology of the name of Lake Keitele in Central Finland, which used to be considered impossible to analyze, was tracked as a result of a comparison of map names. The name contains the dialectal Finnish word *keitele*, which has already disappeared and which is a combination of the word *keidas*, 'a land bridge, a narrow passage of land between waters', from the western dialects and the word *ketvele* from the eastern dialects with the same meaning. As the digital system enabled searches by even the less frequent final elements, other names of land bridges were discovered in the region for proof: *Vetokeidas* and *Vetokeitele* or *Vetokeita*, 'a land bridge over which boats could be dragged from one waterway to another' (< fi. *veto*: 'dragging, pulling', *vetää:* 'to drag, to pull'). The map was also used for locating the land bridge on the basis of which the name had been given.

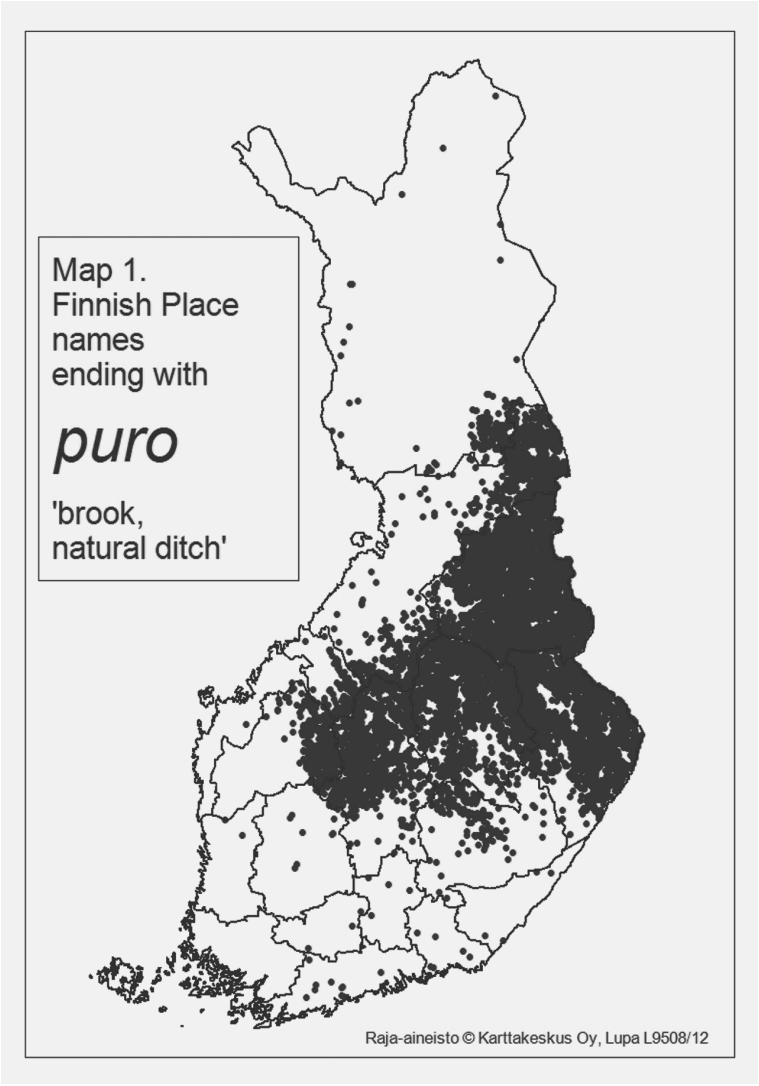
Distribution maps

The distribution of placenames used to be described mainly on the basis of their specific elements. Currently, the Placename Register offers the option of extracting names even according to generic terms or elements found inside the names. What makes the system different from traditional collections is that the variety of map names is less extensive: there is no room for all the names on the map, i.e. the names of the smallest places, especially in areas where the network of placenames is most dense. Nevertheless, they are highly useful for both onomastic research and the planning of names in town plans, when the objective is to choose names or vocabulary typical of the area in question.

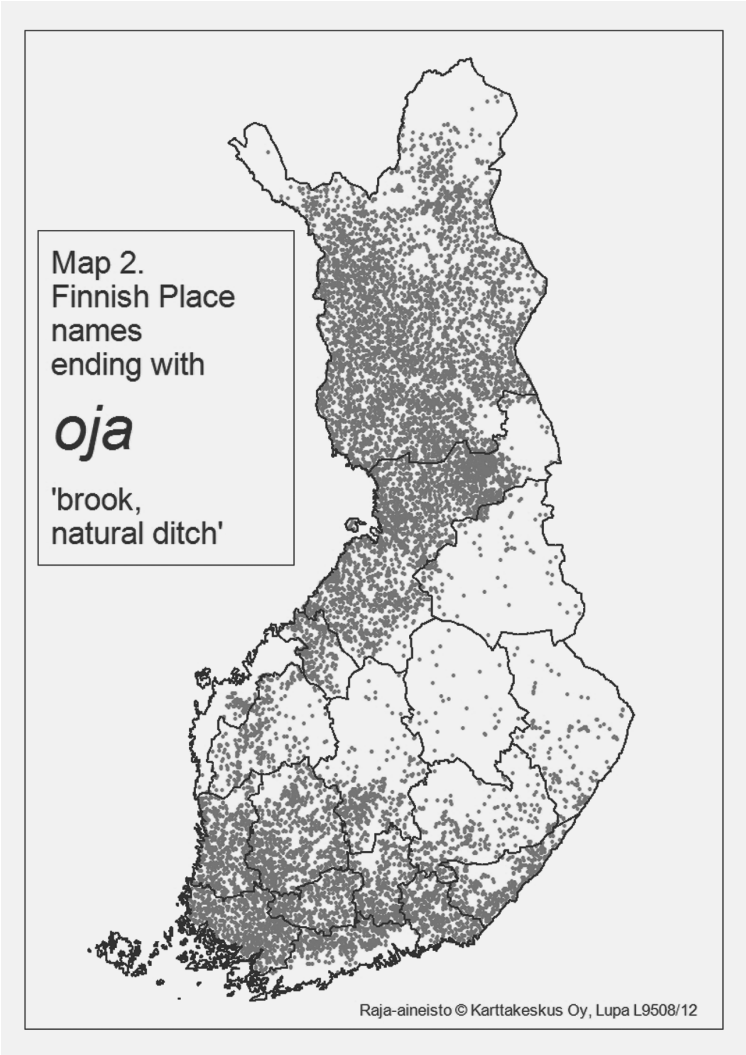
16 http://kansalaisen.karttapaikka.fi/kartanhaku/paikannimihaku.html?lang=en (accessed 26 March 2012).

Synonymy, i.e. different words or names for one referent

The following example shows the division into western and eastern dialects in Finland through placenames. The distribution also reveals a distinction between the eastern and western cultures which can, however, only be verified on the basis of the specific elements or certain cultural features of the names. The map displays the Finnish words *puro* ('brook') and *oja* ('ditch'), both referring to the same feature, but with contrasting distributions:



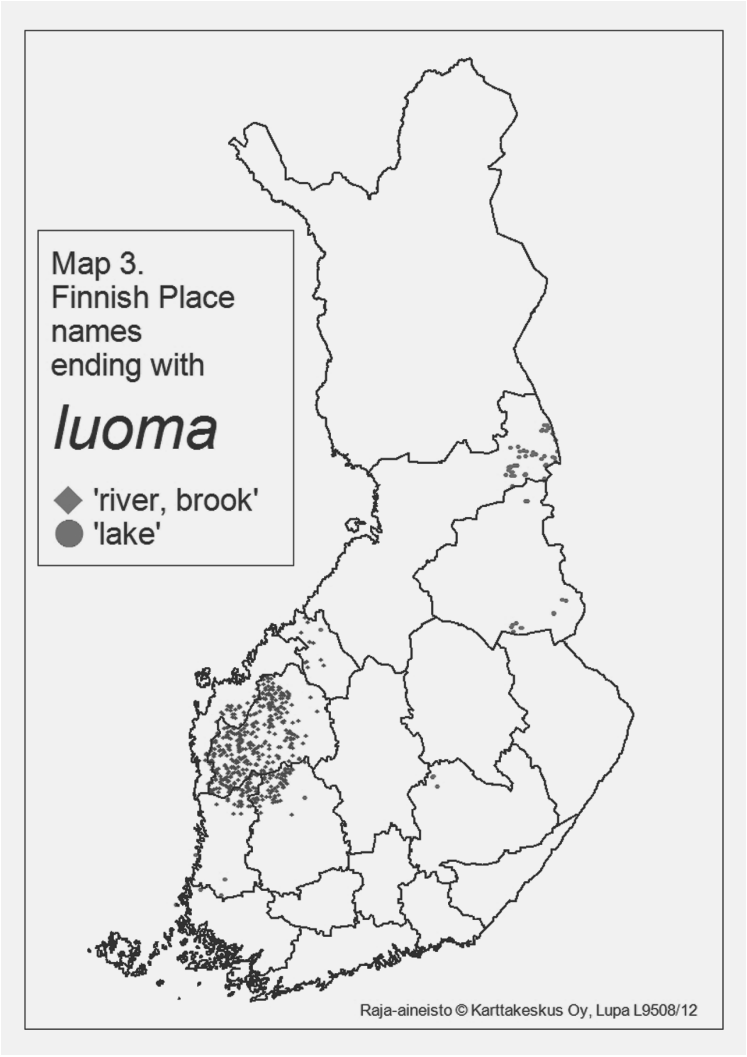
Map 1. Finnish placenames ending with *puro*, 'brook, natural ditch'.



Map 2. Finnish placenames ending with *oja*, 'brook, natural ditch'.

Homonymy or polysemy, i.e. one word or name for different referents

An automatic sampling of character strings reveals accurately the desired data but the interpretation requires that the backgrounds of the names are checked afterwards.



Map 3. Finnish placenames ending with luoma, 'river, brook' and 'lake'

Doctoral theses as examples

Nearby names as a method

In 2007 Kaija Mallat's doctoral thesis was published, titled *Women at the boundary [Naiset rajalla]* – *Kyöpeli* ['ghost, devil, elf, fairy, enchantress, witch'], *nainen* ['woman'], *naara(s)* ['female animal, derogatory term for a woman'], *neitsyt* ['young, (virgin) woman'], *morsian* ['bride'], *akka* ['old woman, wife, grandmother'] and *ämmä* ['(old) woman, wife, grandmother'] *in Finnish placenames.*

Mallat's objective was to interpret the placenames in her data on the one hand, i.e. analyze the words in them, together with the facts behind the names; to differentiate names of different ages; to identify the semantic shifts in the words referring to a woman; and, on the other hand, to recognize and draw attention to what are known as mythological names. Mythological names often refer to big, significant natural features that may in many cases be important boundaries for the community. Names referring to smaller places may also be mythological if their referents are centrally located and have distinct topography, e.g. steep or rocky. There is also a rich tradition of story-telling related to the places, including stories about supernatural beings, which Mallat investigated in her thesis.

One of the methods Mallat used in her thesis was the analysis of the semantics of *nearby names*. Mallat uses the term *nearby names* to refer to names whose referents are located close to the place referred to by the name (2007:164). The feature matrix of the nearby names mentioned in Mallat's research displayed, to varying degrees, the aspects of femininity, sexuality, kinship, being married and mythology. The oldest word referring to a woman was *naara(s)* ('female'), the meaning of which turned pejorative a long time ago. The nearby names of the old placenames beginning with *Naara(s)* were united only by mythology, which could be seen in the proximity of names meaning 'sacred' and 'death'. Some of the names can be considered to refer to prehistoric cult places (Mallat 2007:68, 73, 161).

Data Mining

Antti Leino published his doctoral thesis *On Toponymic Constructions as an Alternative to Naming Patterns in Describing Finnish Lake Names* in 2007. The corpus – 58,000 names of lakes or ponds – was extracted directly from the Placename Database of the National Land Survey. The study was based on computer science, in which the author applied data mining, probability theory, statistical association rules, and other methods of analysis. Using this methodology, he uncovered, for example, the following frequent set of names in his corpus of lake names: *Mustalampi–Valkealampi* ('black pond' – 'white pond') (2007:46), and clusters of three or four names the occurrence of which close to each other cannot be explained by random coincidence. Further, he aimed to apply a new theory within cognitive linguistics – radical construction grammar – to some of his questions. Leino's research shows how significant features can be raised from the world of names with the help of different theoretical and mechanical search options. The statistical odds in the corpus analyzed by mechanical data mining are, however, based on superficial reasoning that does not reveal the complexity of naming and the basic nature of the naming patterns in the real world. New methodologies are of welcome assistance and they may be used to raise new questions but, in the end, these questions can only be answered by looking into the actual names.

Other applications: the exhibition Story of a Place Name

In 2010, a cultural environment campaign entitled 'Your Own Environment' was organized as part of the European Heritage Days to celebrate built heritage. The campaign also covered placenames; and the Research Institute for the Languages of Finland, the National Land Survey, the Swedish Literature Society, and the name planning officials of the capital region designed an

exhibition called *Story of a Place Name*. The exhibition portrayed the birth of placenames, name layers representing different languages and different periods, the collection of names, the checking of map names, planning of names in town plans, and unofficial names.

A comprehensive view of placenames was created with the help of, for example, the Placename Register. The section 'Names on the Basic Map' illustrated by maps the density of names, i.e. the total number of names, the number of names of waterways, and the number of names referring to land elevations per kilometre in the different provinces; the shortest and longest names in Finnish, Swedish and the three Saami languages; the number of names by languages and feature types of places; as well as the names of the most common natural features in different languages. Part of the exhibition can been seen in English on the web.[17]

Conclusion

Digital corpora do not change the basis of onomastic research. They make finding and analyzing data faster and easier, create opportunities for dealing efficiently with large corpora and detecting differences and similarities in them, which may be crucial for the validity of the results in, for example, research into naming patterns, and the etymology and diffusion of names. Many types of data can be handled whilst sitting at an office desk, without having to travel anywhere.

Interpreting the data, however, requires the competence of an onomastician. It is necessary to know how to look beneath the surface of the map: to recognize layers representing different periods; to spot the differences resulting from dialects, the effects of different languages, the structural patterns of names, analogical name building, and various cultural and social currents. Experienced researchers will be sensitive to when and where they need to look for further information to support their interpretation. Onomastic knowledge about nomenclature will also help to raise research questions to which it can be easier to search for answers with the help of the new technologies and the increasing digital corpora.

Although onomastics has evolved beyond the traditional manual craftsmanship, human beings, for example researchers, with their capacity to think and their experience, are still needed for answering the questions.

17 http://www.kotus.fi/index.phtml?l=en&s=3763; http://www.kotus.fi/index.phtml?l=en&s=3773 (accessed 2 June 2012).

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Technical solutions for the management of toponomic data

Réitigh theicniúla do bhainistiú sonraí logainmníochta

Management of Placenames in the Province of Québec

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Abstract. The placenames in the Province of Québec were considered for the first time one hundred years ago. In 1912, the Canadian Congress on the French Language asked for the creation of a government office for the management of placenames. The first meeting of the Geographic Commission was held that same year. Over time and after many changes in the government services, the Commission de toponymie du Québec was born in 1977. Geographical features in Canada are named by each province. An exception to this rule happens when the feature is on federal lands or under other federal jurisdiction.

Dissemination of geographical information:

Initially index and punched cards were used. Then in 1998 the databank came online. This bank contains today 460 themes and more then 200,000 official placenames. New names are usually proposed at local government level and are studied by the professional staff of the Commission. The commissioners then decide to approve or reject them. Hundreds of placenames in common use for many years are still not included in our databank. They will first have to be studied and their historical origins discovered and described. Our databank offers the choice of finding the localization of names on a map of the Province of Québec, or a short history of the name, as well as a wealth of other topics of public interest. Using the search tools we can find places by their names or see a selection of them contained within each of the 460 themes.

Our bank is always under development; last year more than 500 placenames were updated for many reasons, most notably due to the fact of the merger of many municipalities.

The languages of the place names:

Until the middle of the eighteenth century the present Province of Québec was a part of Nouvelle-France, the French colony in North America. Because of this the greatest number of placenames is in French. During that period, many cities also received Amerindian names, Québec (Kebec) being one of them. In 1760 Canada became a British colony, and with the new immigrants English placenames began to appear.

In the twentieth century the Inuit and Amerindian languages were recognized as a cultural priority for the first nations. The database of toponyms in Inuktitut and many Amerindian languages presently refers to more than 8,000 placenames. Many more will be added in the years to come.

Our databank is online under the name TOPOS. It is free of access and consulted many times every day. French is the basic language of this bank.

Keywords: data processing; Québec; languages

Fishermen from Brittany and Normandy had already named many natural geographic features along the Saint-Lawrence Gulf before the first journey of the French explorer Jacques-Cartier in 1534. It was with his second journey, the following year, as navigator, that Québec toponymy started. As reported in his diary, Stadacona, the first important settlement, was discovered. It was a village of 500 Amerindians close to where Jacques-Cartier and his crew spent the winter. Amongst the aboriginal placenames found that next year, Jacques-Cartier mentioned Hochelaga, a substantial Iroquoian nation settlement. It consisted of 2,000 inhabitants and was the largest one known at the time. Some of the other placenames reported prior to that year were Anticosti, Tadoussac and Batiscan. This was the origin of the written Amerindian toponymy.

As often happens in toponymy, those placenames have changed. When Samuel de Champlain landed in 1608 on the banks of the Saint-Lawrence River, he wrote in his diary that another aboriginal nation had settled where Stadacona was located and the new name given to the settlement was 'Qvebecq'. Champlain built his own village nearby with houses and fortifications, spending the winter there. As it grew, the name remained with the village, and it is now known as Québec City, the Capital of the Province of Québec, called the 'State of Québec' by the government.

Hochelaga received the name Ville-Marie from the French explorers. It is located in present-day Montréal, the largest city in the province and the second largest in Canada. During the seventeenth century, just a few names were given to villages, and managing them presents no problem.

The languages used in our placenames

The development of the country during the next century added hundreds of new toponyms of both French and English origin. In 1760 Canada became a British colony; English names began to be given by new immigrants and governments to the new towns and roadways they created. During the twentieth century, 10,000 native placenames figured on the maps of that time, but 80 per cent of those have been deleted for what has been called "the invasion of native culture in the Province" (Dorion 1976).

After a period of anglicization, the Inuit and Amerindian toponyms are now recognized in their own languages as a cultural priority. In the northern part of the province, names in Inuktitut and in many Amerindian languages have replaced most English and French names given by the explorers and fur traders. Native words presently refer to 12,000 official toponyms (Figure 1). Many more are under study by the *Commission de toponymie du Québec* (CTQ) and will be added in the next few years.

During the nineteenth century the government appointed a civil servant to take charge of the existing and new geographic names. Exactly one hundred years ago, the Canadian Congress of the French Language asked for the creation of a government office to take care of the toponymy of the province. This was the first step in the management of our placenames. It was accomplished by the creation of the Québec Geographic Commission which took into account both the

territorial and the cultural aspects of toponymy to ensure they are complementary and reflect the multidisciplinary nature of the field. Not only must the localization and the nature of places be expressed as rigorously as possible; measures are required to take into account the preservation of our toponymic heritage, which is part of the national identity.

After many changes in the government services it was not until 1967 that the actual *Commission de toponymie du Québec* was born. This is the public body responsible for managing the Québec toponyms, whether they are natural geographical features, created names of man-made constructions, administrative units or inhabited areas, or cities and roadways. In short, the commission has jurisdiction regarding the names of all types of sites applicable in toponymy.

LANGUAGE	TOPONYMS	TOPONYMS	ODONYMS	ODONYMS	TOTAL	TOTAL
	Offficial	Official and unofficial	Official	Official and unofficial	Official	Official and unofficial
French	91 993	154 080	94302	133 801	186 295	287 881
English	14 201	34 551	9 985	16 861	24 186	51 432
Amerindians	8 762	23 020	613	1 161	9 375	24 181
Inuktitut	3 158	3 104	14	24	3 172	8 128
Other	1 956	2 892	1 543	2 199	3 499	6 870
Unspecified	3 232	5 862	644	1 017	3 876	6 879
TOTAL	123 302	228 509	107 101	155 083	230 403	383 592.

Figure 1: Distribution by language of placenames, 31 March 2010 (CTQ 2009–2010)

The jurisdiction of the toponymy

Canada is a confederation of ten provinces and three northern territories, each one of them responsible for the naming of its geographical features. An exception to this rule happens when applied to federal lands or lands under other federal jurisdiction. Another exception concerns the territory where the First Nations are the majority.

After years of the old indexing techniques and cards punched with needles, which were popular then, the actual databank came online in 1998. Today, this bank contains 460 themes, 123,000 official toponyms and a total of 383,000 entries (Figure 1).

New names are usually proposed at local government level, then studied by the professional staff of the commission. The commissioners then decide to approve or reject the proposals or may ask

for modifications or more studies. The commission has the privilege of giving a name to places without one.

New inventories must be studied for their origin and use and for their historical relationships before being included in the bank which contains only the names approved, declared as official, and published in the *Gazette officielle* of the Québec government.

Many hundreds of roadways and placenames, some used for a century or more, are missing from the bank, because old habits still persist in the management of data and are not easy to change. The fact that municipalities must submit their placenames to the Commission to be declared official and be included in the bank is an example.

In the English area around Montréal a few towns do not feel they must concern themselves with submitting their place and street names to have them declared official. Some of those recognized as bilingual refuse to change their street signs to a generic style in which French is written in a larger font than English (Figure 2), as required by the Québec Charter of the French language so they keep their old, unsanctioned signs. Personally I don't believe that that is a good excuse for the CTQ not to include in its bank all toponyms and odonyms in current use for many years, official or not. Amerindian and Inuit villages have more privileges than the towns in the province where the English-speaking population is in the majority and which have bilingual status. For the First Nations, rules of the Québec French Language Office are not compulsory.

Figure 2: Bilingual street sign

The privileges of the First Nations

Amerindians are grouped in two types of communities: reserves and villages. In the northern part of the province (Figure 3), covered by the James Bay Convention (CBJNQ 1975), we find many towns and villages where Inuit and Amerindians are in majority. As in the reserves, they are not required to use the French language for the signs of their streets and can use their own or often English for the generic terms in their odonyms and toponyms (Figure 4).

Figure 3: Territory of the James Bay Convention

Figure 4: Street sign in a Cree village

Disseminating expertise

Our *Commission de toponymie* has been disseminating its acquired expertise for many decades, by participation in United Nations work on the standardization of geographical names, collaboration with the Geographical Names Board of Canada and through bilateral relations with a certain number of other countries, especially France. The commission thereby ensures that its mission has significant impact far beyond Québec's borders. This dissemination of the geographical information is also made through the web and the publications devoted to placenames and related themes published by the commission.

Computing and processing

For computing data, Visual Basic 6 software has been used until now for the databank, but the change has been made to using Microsoft ASP.NET, which is a better choice for web publishing.

Another change is presently taking place. For a short time geographic localization was undertaken by a private corporation specializing in this field. This work is in the process of being taken over by the commission's professional staff. Google mapping software is used in conjunction with the official maps of the province for the localization of the toponyms.

When using the internet, the databank of official Québec placenames gives the localization to which they apply as well as their origin and meaning, including files on a wealth of topics of public interest, such as the detailed history of the name. For more than 22,000 toponyms, the meaning of the name is included on the fact sheet just below the individual maps. An asterisk in the search results list indicates that the information exists and is accessible for the name concerned.

Placename search

The databank on the web offers simple and advanced search tools to the public, plus more possibilities restricted to the professionals of the commission.

Using the simple search tools, the word or words of the place to be searched are entered in a text box, and a click on search key starts the search engine finding all placenames containing the words specified, presenting them in order of relevance, beginning with the exact name, if found.

This simple search tool on the web also offers the choice of finding the localization of toponyms on a Google map of the province of Québec. With this search tool we can find places by their names or a selection of them contained within each of the 460 themes that encompass the total placenames categories.

An advanced tool offers much more and, in six steps, enables all the names included in any one of the 460 themes to be searched:

1. Enter words the toponym contains or the entire name.
2. Select the category it belongs to.
3. Enter the type of feature (e.g. municipality, roadway, lake). A list of types of feature may be consulted.
4. Select a region where it is located, though this is an option. A list of administrative regions of the province is included.
5. When known, enter the name of the town where the place can be found. A list of towns and villages is presented.
6. Finally, the submit button gives the answer.

A more advanced search of the databank is reserved for the professional staff of the commission. It offers the possibility of many extractions from any field of the databank to be carried out by class of entity.

1. Official status and variant name of the place. Other information is also included.
2. The geographic code of towns and territories and the page on the geographic list.
3. Date of the decision when a change of status was pronounced.
4. Date of publication in the *Gazette officielle* of the Province of Québec giving official status.
5. Number of the detailed file presented to the commissioners to take the decision to declare a name official or reject the proposal or ask for a modification.
6. Geographic coordinates.
7. Buildings declared cultural monuments.
8. Notes and references used for the web.

Updating

Our bank is constantly changed. Last year more then 500 placenames and roadways were updated for many reasons, most notably due to the merger of many municipalities and villages.

Conclusion

According to the law of the province, French is the basic language of this databank and generics must be written in this language, except for those of the First Nations, which have no obligation to abide by this rule. For municipalities where English in the language spoken by the majority, bilingual rules apply.

The databank is online under the name TOPOS. It is free to access and is consulted many times every day.

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Ainmean-Àite na h-Alba: National Gazetteer technical presentation

Jacob King
Ainmean-Àite na h-Alba

Abstract. Since 2000 there has been a growing demand for reliable information on Gaelic placenames, both from the general public and from public bodies. To meet this demand, with funding from Bòrd na Gàidhlig, Ainmean-Àite na h-Alba have been researching content for, and developing the format of, the National Gazetteer of Gaelic Place-names. The gazetteer takes the form of an online searchable database on the AÀA website at http://www.gaelicplacenames.org/database.php. It provides a single source of authoritative information on Gaelic placenames, including the research on which names have been determined. The database brings Scotland into line with Ireland.

It should be stressed that this gazetteer is not a general historical database of the likes of the English Place-name Survey; although the methodological underpinning is essentially the same, the primary function of this gazetteer is to provide Gaelic forms for placenames.

The talk will focus on the technical aspects of the development of the gazetteer:

- The initial decisions about the database structure – including the technical decisions that were made – and the consequences of those decisions.
- The issues we experienced with attempting to order uncategorizable data into discrete elements which could be sensibly organized into a database. This includes decisions made as to what categories of data should be added and what should be left out.
- Issues involved with how users search the gazetteer.
- The issues involved with data entry.
- Security issues and user-level control.
- How the database is used and by whom.
- How the database can be extended and the information in it parsed for other uses (e.g. for use in GIS or translation into various mark-up languages).
- The addition of further features such as:
    - Mapping – either as a search facility, or to help users locate a particular name.
    - Sound files – pronunciation of the Gaelic form of the name.
    - External resources, either as further information about a name, or as links to primary and secondary sources used as evidence in the entry.

I will also touch on some online/software solutions that we use for research: online material such as www.archive.org; software to organize and collect such sources used in research; GIS research tools including historic mapping.

Keywords: Scottish; Gaelic; placenames; database

Demand

At least since the early days of the Ordnance Survey in the nineteenth century there has been a demand for authoritative forms of Gaelic placenames in Scotland. Currently, demand comes broadly from two areas: the public and governmental bodies. Demand from the public comes generally from the Gaelic community, whether native or non-native speakers, and from all levels of ability. Demand from governmental bodies comes from two needs: for bilingual/monolingual signage such as roads and train stations and for usage in Gaelic-language publications for any purpose: education, entertainment, tourism, etc.

To meet this demand, with funding from Bòrd na Gàidhlig, Ainmean-Àite na h-Alba (AÀA) was set up with the aim of researching content for, and developing the format of, the National Gazetteer of Gaelic Place-names. The gazetteer takes the form of an online searchable MySQL database on the AÀA website.[1] This gazetteer is freely available to the public and provides a single source of authoritative information on Gaelic placenames, including the research on which names have been determined. At present there are 1,411 entries predominantly comprising names of places in the Highlands, although all parts of Scotland have some entries. A further few thousand names remain to be entered into the database, and further research continues.

It should be stressed that, although the methodological underpinning is essentially the same, this gazetteer is not a general historical database in the manner of the English Place-name Survey; the primary function of this gazetteer is to provide Gaelic forms for placenames.

Challenges

The conceptual design of the website is broadly based on the format for the Scottish Place-names Database (this uses MS Access and is not online). This format has a number of fairly elaborate taxonomies, only some of which were included in the final design for the current database, such as that for the semantic categories. In the final product we decided not to use this system for other aspects of the database, such as lexical elements, primarily because the database was not supposed to be a general historical placenames database, as discussed above.

Although this process of design was on the whole smooth, one example of miscommunication in the development of the database may be instructive. The design of the database was commissioned when the details of its structure had not been finalized. The project manager asked a number of times for some field names to be changed in the web interface (as part of a consultation), but the programmer took this to mean the actual MySQL column titles. Every time these were altered it meant a considerable amount of code also needed to be changed. In the end the programmer reorganized the entire database structure so that the column names could be easily changed; this new design, however, was somewhat unintuitive and made it difficult for other users to extend

1 http://www.gaelicplacenames.org/database.php (accessed 29 March 2012).

the functionality of the database (in terms of simple tasks such as exporting the contents of the database into a .csv file). Table 1 shows a simplified example from the original schema:

id	Attribute	Value
1	English_name	Inverness
1	Gaelic_name	Inbhir Nis
1	Coordinate	NH665455
	and so on...	
2	English_name	Edinburgh
2	Gaelic_name	Dún Éideann
2	Coordinate	NT261737

and so on...

Table 1: Original schema

Eventually the underlying database structure was rewritten to meet requirements (i.e. a more intuitive 'spreadsheet' style layout):

id	English_name	Gaelic_name	Coordinate
1	Inverness	Inbhir Nis	NH665455
2	Edinburgh	Dùn Èideann	NT261737

and so on...

Table 2: New schema

This means that MySQL queries can now be more simply constructed. This is an example query in the old structure to list all English names with their Gaelic equivalents:

```
select a.Value, b.Value from Attributes a join Attributes b where a.id =
b.id and a.Attribute = "English_name" and b.Attribute = "Gaelic_name"
order by a.Value;
```

This meant a separate join for every extra attribute one wanted in the result set. In the new structure the following suffices:

```
select English_name, Gaelic_name from Placenames order by English_name;
```

An unintended effect of this process, however, was that every single unique id of each entry was changed. This had two consequences: the first was that Google, a significant source of traffic for us,now linked to the wrong name for individual name searches. Fortunately this corrected itself

over time as Google re-indexed the site. The second problem was that each sound file for each name was named by the id number. This meant that all the sound files were now wrongly labelled after the update and they had to all be renamed manually.

Head forms and regular expression searches

One theoretical issue we encountered was which head form to use in a database. This can be explained using two case studies. The first concerns North and South Erradale. These are two distinct settlements separated by a sea loch; there is no settlement known as just 'Erradale'. The issue here is how these ought to be incorporated into the database:

1. Add the two official entries 'North Erradale' and 'South Erradale'.
2. Add in an entry of simply 'Erradale' with North and South Erradale mentioned with in this entry in the comments.

The solution rests on two issues. The first is the tightness of the relationship between the modifier and core name; no. 2 may seem to be the best approach, but be aware that the modifiers have a loose attachment to the name. In a case such as Invereshie, Glen Feshie, River Feshie and Moor of Feshie it would not make sense to add a head form of 'Feshie', which does not exist independently of modifiers (although the river can be called simply 'Feshie').

The second issue rests on the type search function of the database. If the search is run as a 'beginning with' search, then typing in only 'Erradale' under approach 1 above will not give any results. Conversely entering either 'North Erradale' or 'South Erradale' under approach 2 will likewise return no results. If a search type was used which contained every occurrence of any word entered into the search (e.g. all names containing 'North' and 'Erradale'), this would return not only North Erradale, but also every other entry containing the word 'North'. Depending on how the results are sorted, the desired result may be far down the list. The query result will not weigh 'Erradale' as more important than 'North'.

Some solutions to this involve using more than one search field in simple search, such as 'head form' and 'alternative form', that is, adding 'North Erradale' as the head form and 'Erradale' as an alternative form. Although this may seem appropriate, it may result in the name being retrieved twice when searching for 'Erradale'.

Another case study: If someone wished to search for the entity known as the River Tay, they might simply enter 'Tay'. Since the entry is 'River Tay' the name would not be returned without wildcards (i.e. "where English_name = 'Tay'"). A search using wildcards as default, however, (i.e. "where English_name like '%Tay%'") would also return the likes of Taynuilt, Tayinloan, etc. A search for River Tay without inverted commas yields all names with 'River' (i.e. "where English_name like '%Tay%' and English_name like '%River%'") and the desired result would be drowned out in the number of results, as in the example of Erradale above.

The fact that one type of search works for one field does not necessarily mean it will work for another. We have a field of postcode zones, which involves a two-letter code followed by one or two numbers, such as IV4 or PH54. This denotes a specific bounded area. A search for "IV" will return, as expected, IV4 and IV54 and so on, but a search for "IV5" will return places in both "IV5" and "IV54", two distinct areas: a place in IV5 is not inside (or even very close to) IV54. Querying "IV5 " followed by a space does solve this problem but this is hardly intuitive. It is clear a search for this field should take no wildcards, i.e. it should be something like "where postcode = 'IV5'" rather than "where postcode like 'IV5%'". Unfortunately, there is no single theoretically correct approach in these cases; it is largely a matter of tweaking until acceptable results are returned.

The examples above represent a small selection of these issues. There is a fine balance between not getting the results a human would expect, and retrieving too many results. In practice, manual tweaking is usually needed.

Journey from research to creating an entry

Placename research is carried out through a mixture of emails, Word documents, phone calls and so on and all the resulting information needs to be organized into a single entry that can go into the database. When the research is finalized we usually end up with part of a MS Word document containing early forms, discussion, grid coordinates and so on. This information needs to be divided up into the various entry fields. A simple copy and paste from MS Word or any text program into the web entry interface does not convert MS Word formatting into HTML. A PERL script was written which converts simple text into HTML for inserting into the data fields. Further manual editing is required if the conversion does not work fully. This often occurs because, for instance, the script has to guess where the division is between the end of an early form and the beginning of the year to insert a tab into it. Thus the string "Balgy 1644" gets converted into "Balgy </td><td>1644"; this is well and fine when the year begins with a numeric, but in the cases where either the old form ends in a numeric, or the year begins with a letter, such as a "*c.*", the script needs further adjustment.

A separate problem, however, is that this means there is HTML code within the MySQL database fields and thus within output XML, a problem we will return to below.

Creation of approval system

A very important system we implemented was that of approval before publishing. When the data inputter has added an entry, it is not immediately published online but is marked in a list. A proofreader with the appropriate log-in is then able to look at the list, check the proposed entries, edit them if necessary, and then make the material available online. This is also useful if a given entry should be taken offline temporarily for some reason, but does not need to be deleted.

The user experience

Getting there

Traffic to our database is divided approximately equally into the main categories: search (i.e. through search engines); referral (i.e. via links from other sites); and direct traffic (i.e. through bookmarks or typing the URL). Of the search traffic, very little of it is enquiries into a specific name (such as "Gaelic for Inverness") and most of it is more general (such as "Gaelic place names"). Referral traffic comes primarily from Wikipedia and Facebook, as well as Gaelic resources such as learngaelic.net. Assuming one arrives at the database search page, there are two ways to search, by text or by map.

There are three ways to search by text:

1. *Simple:* one can type a name. This searches English name, Gaelic name and location. This means that typing 'Skye' will return all names on Skye rather than just the name 'Skye' (since all names on Skye also have this word in the location field).
2. *Advanced*: one can search many fields, such as local authority, grid reference, feature type (e.g. hill).
3. *A–Z browse*: as it sounds, one can browse by first letter.

Searching by map: one can select the local authority and then zoom in to the location using an interactive map. This is helpful if one knows where a place is but not the exact location or form of the name.

Enjoying your stay

The entry page is roughly divided into two sections: geographical information about the place and linguistic information about the name.

1. *Geographical information*. This really only exists to help identify the place: Location Local authority / Parish post 1891 / County post 1891 / Topographical feature type/ OS sheet number / OS grid reference.
2. *Linguistic information.* This is for an explanation of the form of the name: Element meaning / Element type / Language notes / Sources / Additional information.

Moving on

From this page, there are a number of extra resources available which, where appropriate, open in a new tab or window.

Sound file: This is a recording of the name in Gaelic.

Mapping page: Every grid reference contains a link to a JavaScript page which streams OS OpenLayers. This is an API-based system which allows people to access OS data for free;

one can zoom to all levels bar the 1:10,000. The map is centred on the desired grid reference. Clicking on any point in this map brings up a menu of other external resources: ScotlandsPlaces.gov.uk, Geograph.org.uk, Google Maps, National Library of Scotland Maps, and Flickr. These are effectively research tools. This page will also soon contain another feature whereby one can search by a name rather than grid coordinate, if the name appears in the gazetteer.

External resources: If some evidence for a name is online, then we try to link to it if possible; this is usually a resource on www.archive.org or a map from www.nls.uk. For instance, a major resource for historical forms is the Register of the Great Seal of Scotland, generally referred to as RMS. It is possible with this resource to link to the individual reference. For example: <ahref="http://www.archive.org/stream/registrummagnisi03scot#page/n5/mode/2up" target="_blank"> 1540 RMS iii no. 2065.

These links can be inserted fairly easily using a MySQL replace function or the like. If the page number is included in the reference, then the link can go directly to the page needed. In the cases of maps or references which use sections (such as that above), then the links to the early form may point simply to the first page, or alternatively the desired page can be keyed in manually, which is more satisfying for the user but can be time-consuming.

Proposed future development

The technical development of the database will mainly involve integration with other services. This will take a number of forms:

We want to create a service which will *output XML* which other web services can use. This will mean generating a snippet of HTML which can be embedded, like an iframe, into another website. The input would be the English form and the output would be the Gaelic form. For example, on a site like ScotlandsPlaces, as we add names to our database, the Gaelic form would be added underneath. Another use for the XML would be to output a table of Gaelic and English names as a latex or HTML table or list. This will be useful for automatic inclusion in a National Scottish Gazetteer of Placenames for alternative Gaelic names (when it exists).

The HTML embedded in the XML was mentioned above. Currently the sources field in MySQL requires HTML embedded in it to render correctly, i.e. the field contains HTML code for one or two tables to generate the table for early forms. From a best-practice perspective this may not be ideal. A future challenge would be to structure the database so that instead of HTML code, the various parts of the early forms were atomized into their own fields. This would look something like this: (see overleaf)

id	headform
26	Balgy

id	hdfm_id	early_form	long_form	start_year	end_year	circa	reference
1	26	Balgy	Piscariae salmonum de Balgy	1624	1624	no	Retours (Ross) 69
2	26	Balgie		1747	1755	no	Roy's map
3	26	Balagie		1591	1591	yes	Pont map 7

Table 3: Proposed table structure for early forms

This could be converted into XML such as:

<oldform
wholeform="Piscariae salmonum de Balgy"
word=><"Balgy"
start_year="1624"
reference="Retours (Ross) no. 69">
</oldform>

<oldform
wholeform="Balgy"word="Balgy"
year="1747-55"
reference="Roy">
</oldform>

and thence into HTML:

Piscariae salmonum de <i>Balgy<i> 1624 Retours (Ross) no. 69

rendered as:

Piscariae salmonum de Balgy 1624 Retours (Ross) no. 69

This could all be added using a browser interface such as that shown in Figure 1.

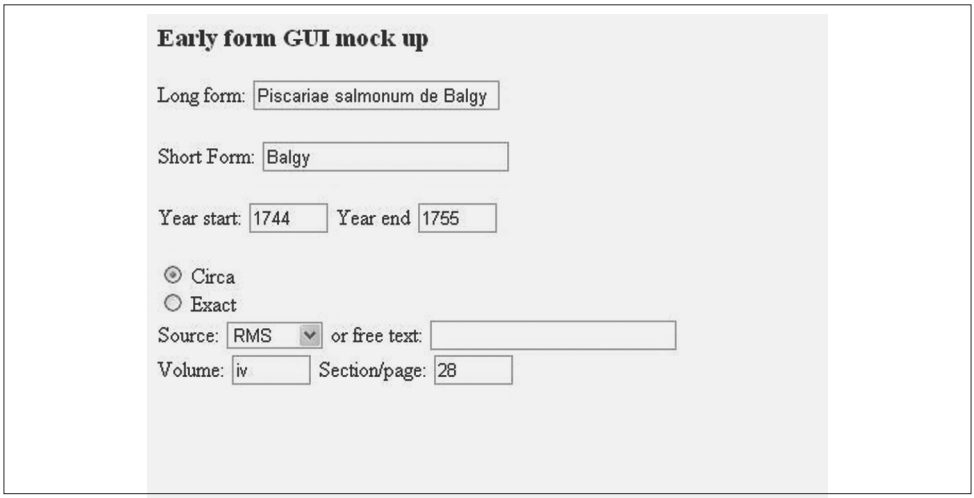

Figure 1: Early form GUI mock-up

There are pros and cons to this approach.

Pros: Queries can be run on early forms, e.g. all forms for a name between 1610 and 1710. This system could be used like a citation manager; depending on the GUI used it would avoid inconsistency in abbreviations and date order.

Cons: There are pragmatic input issues: if one is writing up this data first in a text file and then inputting into the GUI, this would be a reduplication of effort. Once gathered using a text editor, it is easier to convert the Word table into a script which converts it to a HTML table, as discussed above. Moreover, this system is less flexible; for instance, if there is a new source this will need to be programmed in before the old form can be entered.

This is but a brief survey of some issues involved in the running and creating of a toponymic database. I suspect that some of these issues will be familiar to the reader and some will create new avenues for discussion.

The logainm.ie Placenames Database of Ireland: software demonstration

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Abstract. The first part of this paper will showcase the Placenames Database of Ireland. This is a large database containing over 100,000 entries; it is accessible to the public free of charge (www.logainm.ie) and serves around 150,000 searches per month.

The database records the official names, in two languages (Irish and English), of geographical objects on the island of Ireland, as far down as street level in some areas. As such, the database contains not only the names themselves but also a range of auxiliary information including the geographical location of the place, its position in the country's administrative hierarchy, citations of the placename being used in historical records, and sound recordings of the placename being pronounced by speakers from the area.

A public website allows users to access the data by means of a sophisticated interface, and was designed to present the data in a user-friendly way. Users have the option to search for placenames or to browse lists of placenames according to the administrative hierarchy using the site's regular interface, or to browse geographically using the site's mapping interface. The public website also incorporates additional resources such as sound recordings, educational resources and various other related information resources.

In addition to the public website, a password-protected private website provides editorial staff with a sophisticated editorial interface which allows them to edit data stored in the database. This interface incorporates various editorial and management tools, which allow the editors to carry out various activities, including:

- Editing the placenames collection;
- Editing metadata lists such as language names and place categories;
- Managing a large collection of bibliographic sources;
- Reviewing and analyzing the public website's usage statistics;
- Controlling aspects of the public website's content such as the 'placename of the day' that appear on the home page;
- Changing one's own password, adding and removing users;
  Accessing the editorial history of any entry and any user.

The second part of this paper will discuss a number of data-structural issues that arose during the construction of the Placenames Database of Ireland. While building a relational database to accommodate the various aforementioned data types, several interesting issues arose. A selection of issues under the following headings will be described in this paper:

- Etymological relations between placenames;
- Dealing with overlapping hierarchies;
- Place as an abstract concept.

Keywords: toponymic data; database; website; user-friendliness

Introduction

Paper overview

In this paper we demonstrate the technological aspects of the logainm.ie Placenames Database of Ireland project.[1] This includes a database and a number of websites. As an introduction, we outline the project background and objectives, and place the project in the context of the work of the Placenames Branch of the Government of Ireland.

Firstly we look at how the dataset is managed using a database and an online editorial interface to this database. This interface encompasses both editorial and management tools. These tools are presented. Then we look at how information from the dataset relevant to the public is disseminated using a public website. Design principles, features, tools and some additional resources are presented. Finally we illustrate some data-structural issues that have arisen during the project. Research into how to address these issues is currently being carried out and some of the possible solutions being suggested are outlined.

Project background, objectives and usage

The project is a collaboration between Fiontar, a school within Dublin City University that specializes in large-scale digital humanities projects for the Irish language, and the Placenames Branch of the Government of Ireland. The Placenames Branch is involved in researching, approving and publishing the official Irish-language placenames of Ireland in conjunction with the Placenames Commission and the Minister for Arts, Heritage and the Gaeltacht. The project came about as the result of the necessity to digitize and secure the results of research being carried out by the Placenames Branch, and to make these results more easily accessible to the public. Work commenced on the project in 2007.

As a result of the project, the data is now stored securely in a database, and managed by database and web administrators in Fiontar and by editorial staff in both organisations through a custom-built online editorial interface. Irish-language placenames that have been approved or are in the process of being approved by the Placenames Branch are now easily accessible and searchable by the public, under both Irish and English versions, through the internet via the logainm.ie website. The website now deals with about 10,000 unique visitors per month.

Logainm.ie: managing the data

Introduction

The dataset is stored in a relational database, or referenced from it in the case of sound and image files. This database can be accessed directly or modified by a number of database administrators in Fiontar. To facilitate ongoing editorial work, an online editorial interface to the database was custom-built as part of the project. This interface is a password-protected website that can be accessed from anywhere through a web browser. In this section the types of objects contained in the dataset and the features of the editorial interface are described.

1 http://www.logainm.ie/ (accessed 29 March 2012).

The database and editorial interface

The editorial interface, shown in Figure 1, provides the functionality to add to, delete from, and modify the Placenames Database of Ireland. It encompasses a wide range of features that allow the editor to work on the various categories of object stored in the database. These categories include placenames, recorded pronunciations (sound files), place types (e.g. county, electoral district), place properties (e.g. there is or was once a post office here), hierarchical information, editorial notes, geographic coordinates, textual historical records, scanned historical records (image files), explanatory notes and editorial history.

Tools are provided to edit place data, as described above, to edit metadata relating to place data such as language labels, acceptability labels (e.g. validated name, historical name), types, properties and note types, and to edit a related bibliographic database. Additional management tools are provided within the editorial interface to provide editorial staff with the functionality to perform certain tasks such as querying usage statistics and posting announcements on the public website. While the public website is bilingual the editorial interface is in Irish only as this is the working language of the researchers.

Figure 1: A screenshot of the editorial interface of the Placenames Database of Ireland

Logainm.ie: disseminating the data

Introduction

The dataset is made available to the public via a freely accessible website. This public interface, shown in Figure 2, to the Placenames Database of Ireland is available at www.logainm.ie and comprises a search engine and other features and resources. Data is also made available through data exports by request. In this section the features and resources which comprise the website are described.

The public interface

A primary objective in the design of logainm.ie was user-friendliness. The website provides the public with a number of tools for searching and browsing the contents of the Placenames Database of Ireland. The first is a quick search facility that allows the user to type placenames in English or in Irish and returns exact, similar (e.g. a search for 'portmaarnock' will yield 'Portmarnock') and related matches (e.g. a search for 'portmarnock' will yield 'Portmarnock Grove' etc.). In addition, placenames can be located by browsing the administrative hierarchy of the country. Clicking on a county will yield, in addition to data relating to that county, lists of its constituent units, e.g. baronies, cities, electoral districts, parishes. Any of these lists can then in turn be browsed and drilled down through. All Irish-language lists of placenames on the site are ordered alphabetically according to language-specific rules (i.e. initial articles and mutations are displayed but excluded during alphabetisation). And finally, placenames can be located by browsing the interactive map provided. In addition to the search and browse tools, the website comprises facilities for listening to recordings of placenames being read out, for viewing scanned or digitized archival records, and downloading additional items such as maps and educational resources.

Technology and infrastructure

The websites have been built using HTML, CSS, C#, and ASP.NET technologies. The database is a SQL Server 2008 database. The systems are hosted by the Dublin City University Information Systems & Services (DCU ISS) department. The systems reside on two powerful servers, a dedicated data server running SQL Server 2008, and a virtual web server running ISS 7.5 and .NET 3.5. DCU ISS provide server management, DNS management, backup, security and internet connectivity. Other servers are available for testing puposes. Source code is managed by Fiontar using Subversion.

Data-structural issues

Introduction

In this section, we will take a closer look at the data structure we have adopted while building the Placenames Database of Ireland. Instead of reviewing the whole database in detail, we will zoom in on a handful of issues of interest. We will review the structural decisions we have made and discuss their consequences. Many of the issues we have had to contend with are linguistic in nature, while others are related to the country's administrative hierarchy. A more detailed discussion of these issues can be found in Měchura (2012).

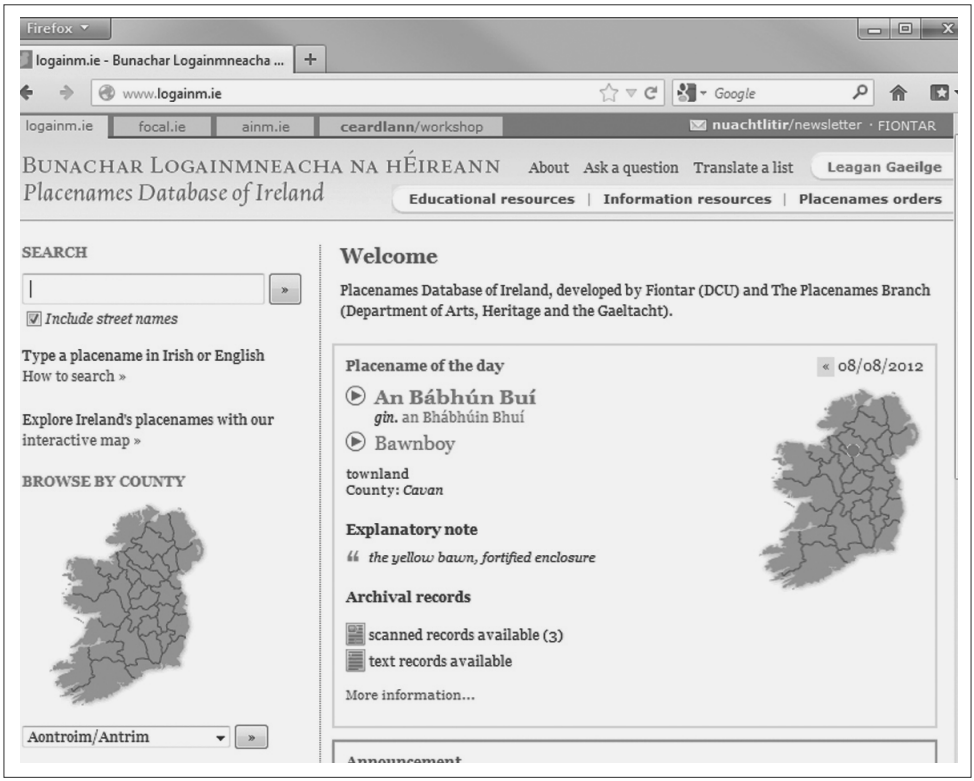

Figure 2: A screenshot of the public interface of the Placenames Database of Ireland

Linguistic properties of placenames

Like all linguistic expressions, placenames have grammatical properties such as gender and number, can be inflected, can be used in a sentence and are anchored in a network of relations to other words, both in the same language and in other languages. Geographical information systems (GIS) usually ignore these aspects and treat placenames as unanalyzed strings of text. The Placenames Database of Ireland, however, pays increased attention to the linguistic properties of placenames because it is primarily a *linguistic* database, only secondarily a *geographical* one.

In its current form, the database explicitly annotates placenames for the following structural aspects: (1) the presence or absence of a definite article in Irish and English and of an initial consonant mutation in Irish; (2) components and conjunctions in so-called *composite names* (for example the placename *Ballaghgowla and Froghan* consists of two components connected with the conjunction 'and'); (3) so-called *disambiguators* in placenames such as *Black Lough (South)* where the disambiguator appears in brackets. In addition, the database contains forms in the genitive case for almost all Irish-language placenames.

In the future, we are hoping to increase our coverage in this area and to record more linguistic facts about placenames, including their lexical relations to other words (such as demonyms: *Galway* →*Galwegian*) and their combinatorial properties (such as the locative prepositions placenames combine with: *i nGaillimh* 'in Galway' but *ar an gCeathrú Rua* literally 'on Carrowroe').

Cross-linguistic issues

The normal situation in the Republic of Ireland is that each place has two names, one in Irish and one in English. There are, however, cases that deviate from this, such as when a name is missing in one language (either because it has not been documented yet or because one is genuinely not available) and when a place has more than one name in the same language (distinguished by levels of acceptability and officialdom). Our database is designed to handle such cases well.

We are, however, perceiving a gap in our treatment of some cross-linguistic phenomena such as borrowing (e.g. the name *Dún Laoghaire* having been borrowed from Irish into English), anglicization (Ir. *Gaoth Dobhair* → En. *Gweedore*), translation (En. *Butler's Bridge* → *Ir. Droichead an Bhuitléaraigh*) and re-interpretation (the placename *Temple Bar* originated in English from the personal name Temple but was later re-interpreted as the common noun 'temple' and hence the Irish name *Barra an Teampaill*, literally 'the bar of the temple'). Ideally, we would like to explicate and annotate such relations between placenames; this would allow us not only to provide better information to users but also to extract interesting statistical observations about the relative proportion of these phenomena in the country's body of placenames.

Dealing with overlapping hierarchies

The Placenames Database of Ireland contains data about the position of each place in the country's administrative hierarchy. However, implementing this computationally has not been trivial because Ireland's administrative hierarchy is not a nested hierarchy in the mathematical sense. In a nested hierarchy, each object only needs to record a link to its hierarchical parent and all other facts can be implied from this by logical reasoning: if object A is in object B and object B is in object C, it follows that object A is also in object C. Ireland's administrative hierarchy has deviated from this mathematical ideal so much that we are in fact dealing with what is called an *overlapping* hierarchy, that is, a hierarchy where an object may have more than one parent. This means that logical reasoning is no longer always possible: if we know that A is in B and that B is in C_1 and C_2 simultaneously, we can no longer infer whether A is in C_1 or C_2 or both. In fact, there is no way to know this other than by deriving it from a dataset of geographical boundaries or by recording it explicitly. The former (geographical boundaries) would be preferred but the latter (explicit recording) is the approach taken in our database. Even though it introduces a potential for inconsistencies, we have had no other choice as we do not have unimpeded access to accurate boundary data.

Place as an abstract concept

The basic unit of analysis in our database is a *place*; data of all other categories, including names, are attached to places. A *place* can be a physical feature (island, field), an administrative object (townland, electoral division) and even a geographical object that would not conventionally be referred to as a 'place', such as a river, a mountain or a street. A place is therefore an abstract object

which may or may not have discrete boundaries in the physical world and may or may not be recognized as an administrative unit by the state.

There is, however, some evidence that suggests that we may need an additional level of abstraction on top of *place*. The state's administrative hierarchy sometimes recognizes several 'places' where a casual observer might only recognize one; for example, our database records five places called *Dún na nGall/Donegal* in the north-west of Ireland: a county, a town, a civil parish, an electoral district, and a townland. As far as the database knows, these places only *happen* to have the same name. That, however, is unsatisfactory as it fails to distinguish a case like this from cases such as the 19 places called *An Baile Mór* (literally 'the large town') which can be found all over Ireland and which genuinely only *happen* to have the same name.

An ideal data structure would provide a way to connect several concrete places to a single 'abstract place'. The abstract place would contain all information common to the concrete places, such as names and historical citations, and these would then be inherited by the concrete places. This would introduce a guarantee of consistency into the database and would also make it possible to present such cases in a more user-friendly way to non-specialist users, for example by grouping the five Donegals under one heading.

Conclusion

The technology behind the Placenames Database of Ireland project has evolved significantly over the course of the project thus far. Many features have been added and further enhancements are currently being planned for the next phase of the project. Aside from the implementation of solutions to the aforementioned data-structural issues, the next major development planned is the addition of features relating to elements, such as *Dún* 'fort' (*e.g. Dún na nGall*), which occur frequently in Irish-language placenames. Further enhancements relating to the sound files are also envisaged.

We are also currently planning a major overhaul of the public interface to enhance usability and user-friendliness. Work of this kind is required periodically as continual developments and additions to a site of this kind result in a gradual onset of incoherency. We conduct surveys amongst our users on an annual basis to collect information regarding their needs as well as their opinions and suggestions. Some valid complaints and valuable suggestions regarding the usability of the website were collected from the latest survey, and these will feed into the planning of any overhaul. We hope, as part of this work, to add an enhanced mapping interface which will be based on Ordnance Survey Ireland's *MapGenie* web service.[2]

In addition, based on recent innovative technical developments implemented as part of the Focal project,[3] a sister project being carried out by Fiontar for the managment of the National Terminology

2 http://www.osi.ie/services/mapgenie.aspx (accessed 29 March 2012).

3 http://www.focal.ie/Home.aspx (accessed 29 March 2012).

Database for Irish, a major overhaul of the database and system as a whole to improve versatility and speed, and to provide future-proofing, is being considered.

Other questions such as how to better handle or automate the sharing of batches of data with other non-commercial organisations and individuals for reuse, or how to handle data volunteered by expert users, may also be tackled in the future.

References

Měchura, M. B. (2012) 'Landscapes, languages and data structures: Issues in building the Placenames Database of Ireland', in *Proceedings of the Digital Humanities Conference (DH2012)*, July 2012, Hamburg, Germany.

Estonian Place Names Register and Address Data System

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Abstract. The National Place Names Register was established by regulation of the Estonian government on 30 November 1998. The Register's purpose is to collect and register Estonian geographical placenames in order to preserve them as national heritage as well as for use in different information systems.

The Register contains the following: administrative and settlement units (country, counties, cities, city districts, rural municipalities, rural municipality districts, towns and small towns, villages and settlements), other territorial units (historical, administrative or cultural units, national and nature parks, cultural heritage, project areas, etc.), relief and terrain (valleys, mountains, cliffs, plateaus, etc.), single landscape elements and protected objects (stones, trees), inland water bodies (lakes, rivers, streams, waterfalls), islands, land covers (parks, beaches, moors, city forests), land use, transport (roads, railroads).

At the moment, there are approximately 38,500 valid placenames (32,000 of them official principal names) and only 500 of them have some problems (for example when the name does not meet the structural requirements – has too many holonyms).

Placenames and address data all reach the central Address Data System, where it is possible to analyze the data and find errors of logic. However, the ADS doesn't create data (at the moment) but collects address data from different information systems, so that there is no need for users to make data requests from several databases.

A major part of spatial data is held in the National Topographic Database, which can be used by other information systems.

Placenames are given by the Estonian government, the minister responsible and local authorities. The process of choosing which name to give, how to correct existing ones and how to preserve them is regulated by law. When it comes to linguistic questions or problems, Estonia has the Institute of the Estonian Language, which gives expert assessments on names and whether they are suitable for specific locations. Preferred names are always historic ones.

Placenames are used everywhere and are part of everyone's life. When it comes to national registers, the most important aspect (alongside local and national identity, and personal attachment) has to be the address.

Keywords: placename; standardization; address; data; map; handbook

The Place Names Act

Estonia has a Place Names Act, which first came into force in 2004. A new version of the Place Names Act is being prepared and is expected to come into force later this year. This Act provides the bases for the official standardization and use of Estonian placenames (toponyms). The term used in this Act is 'placename', otherwise known as toponym.

A placename is a name which has become fixed or is fixed as the name of a place regarded as a natural or man-made geographic entity.

According to the Act, the following shall have an official placename (which has to be established):

1. Counties, rural municipalities and cities (administrative units).
2. Rural municipality and city districts.
3. Settlement units.
4. Streets, squares and other small places used in addresses (address units).
5. Cadastral units subject to entry in the cadastral land register if they include entities outside the street network which need an address. A name may be established for a cadastral unit and the name shall be retained even if the cadastral unit is given an address according to a street name. Natural features registered in the state cadastre or a state register, and immovable monuments
6. and heritage conservation areas under state protection.
7. Railway stations and stops, public transport stops, ports, lighthouses, airports and airport terminals.

Official placenames may also be established for places not previously specified if the identification of places is necessary for government agencies or local government bodies in their activities.

- Names of administrative units shall be established by the Government of the Republic.
- Names of settlement units shall be established pursuant to the procedure established by the Government of the Republic.
- Names of rural municipality and city districts, cadastral units registered in the cadastral land register and small places shall be established pursuant to the procedure established by the local government council.

Of course, when establishing the name of a cadastral unit which is in private ownership and has been entered in the cadastral land register, or the name of a place located within such a unit, the opinion of the owner shall be asked.

Place Names Board

The Place Names Board of Estonia was formed by the Government of the Republic on 17 June 1997; members were newly appointed on 1 July 2004. It is a consultative body working at the Ministry of the Interior under the supervision of the Minister of Regional Affairs. The Board is guided by the Place Names Act, adopted on 5 December 2003 (succeeding an earlier Act of 1996) and entering into force on 1 July 2004.

Main functions of the Place Names Board

The Place Names Board[1] advises bodies and officials who are responsible for the establishment of placenames:

- Gives advice to authorities and officials approving placenames.
- Forwards naming proposals to names authorities.
- Observes the use of official placenames.
- Suggests corrections and supplements to legal acts dealing with placenames.
- Gives statements on name matters to be decided by the government.
- Approves the use of non-official placenames on the Basic Map of Estonia.
- Advises authorities in the case of name disputes.
- Participates in the compilation and publication of gazetteers.
- Disseminates information on Estonia's placenames and the principles of standardization both in Estonia and abroad.

The Place Names Board has the right to demand a written justification for the selection of a placename from the institution who established the placename.

The Board has undertaken the revision of the list of populated places. The Working Group on the Names of Populated Places completed the survey of proposals by local governments to enlarge the present official list of places dating from 1977. That year a reform took place that reduced the number of previous official names by half. Following widespread discontent with that decision, and the adoption of new regulations, it became possible in 1997 to start reversing many of the decisions of 1977. The new list was confirmed by the government on 18 December 1997. A revised list was approved on 16 December 1998; it has been in force since 1 January 1999. Altogether the reforms have added about 1,200 names to the previous list. A new feature is the presence of some parallel names in Estonian and Swedish (populated places of the municipality of Noarootsi) and names in the Võru local language form (several municipalities of the county of Võrumaa).[2]

Standardization of geographical names

Since 1967 the United Nations has organized conferences on the standardization of geographical names every five years, with the goal of promoting the use of standardized placenames in international communication. Items discussed at the conferences include:

- Formation of national names authorities
- Distribution of information on geographical names (databases, gazetteers)
- Adoption of single romanization systems for every non-Roman language
- Toponymic training courses and seminars
- Toponymic guidelines

1 http://www.eki.ee/knn/index2.htm (accessed 18 April 2012).

2 http://www.eki.ee/knn/index2.htm (accessed 18 April 2012).

• List of country names
• Standardization of geographical names in multilingual areas
• Limitations on the use of exonyms
• Toponymic terminology.

At the intervals between the conferences the United Nations Group of Experts on Geographical Names (UNGEGN) is active, holding sessions every two years. The activities of UNGEGN are based on regional cooperation. In 1992, at the Sixth UN Conference on the Standardization of Geographical Names, the Baltic Division was formed. The Division consists of experts from Estonia, Latvia, Lithuania and the Russian Federation.

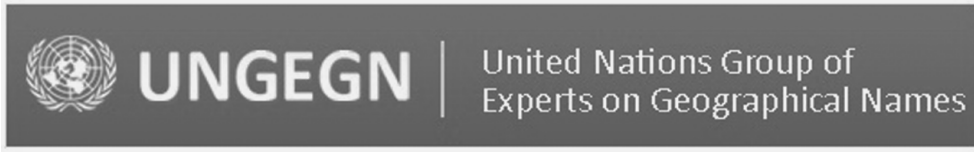

Figure 1

Figure 2

Language of placenames

The Act stipulates that Estonian placenames shall be in Estonian. Determining whether a placename is in Estonian shall be the responsibility of the Government of the Republic.

Exceptions to the language of placenames are permitted if they are justified by reasons connected with history or cultural history. To prevent corruption of indigenous placenames and unjustified changes thereto, exceptions are made based on the language of the permanent settlers of the corresponding place as at 27 September 1939 (taking into account an indigenous non-Estonian language).

The main other languages used in placenames in Estonia are Swedish (west Estonia and islands) and Russian (south-east Estonia, old Orthodox settlements). For example, there are 114 Swedish placenames in Estonia, of which 45 are official.

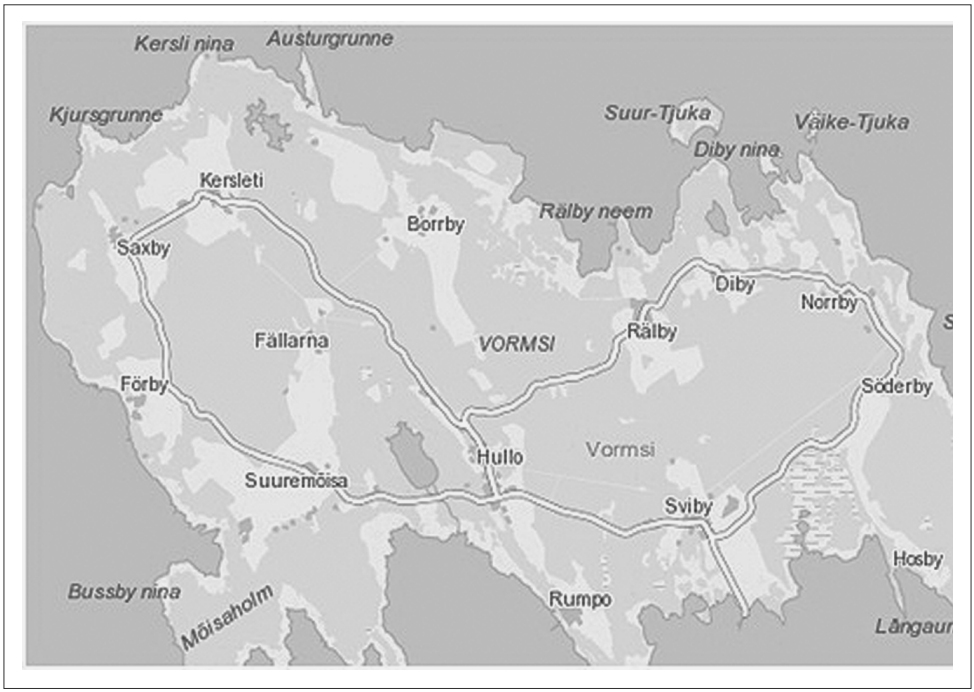

Figure 3: Swedish names in Vormsi island. Estonian Land Board

National Place Names Register

The National Place Names Register was established by regulation of the Estonian government on 30 November 1998. The Register's purpose is to collect and register Estonian geographical placenames in order to preserve them as national heritage as well as for use in different information systems.

The Register contains the following: administrative and settlement units (country, counties, cities, city districts, rural municipalities, rural municipality districts, towns and small towns, villages and settlements), other territorial units (historical administrative or cultural units, national and nature parks, cultural heritage, project areas, etc.), relief and terrain (valleys, mountains, cliffs, plateaus, etc.), single landscape elements and protected objects (stones, trees), inland water bodies (lakes, rivers, streams, waterfalls), islands, land covers (parks, beaches, moors, city forests), land use, transport (roads, railroads).

At the moment, there are approximately 38,500 valid placenames (32,000 of them official principal names) and only 500 of them have problems (for example when the name does not meet the structural requirements because it has too many holonyms).

As of 1 July 2008, the authorized processor of the Place Names Register[3] is the Land Board (previously it had been the Estonian Map Centre). Before transferring the Place Names Register to the Land Board, we conducted a corresponding integration study and compiled a development plan for the Place Names Register for 2007–2012.

Place Names Register's public service

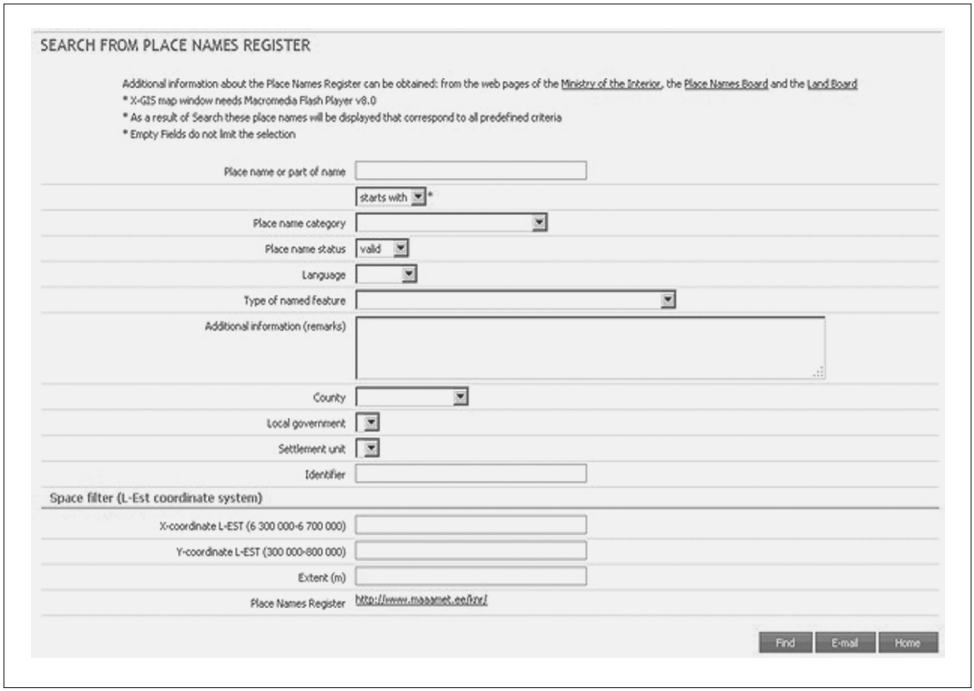

Figure 4: Public service – searching from the Place Names Register

A search can be made using different options. One can enter a whole name or a part of one; a category can be chosen (official, unofficial, official principal name, etc.), a language (Estonian, Finnish, German, English, Latvian, Russian or Swedish), a county, a local government, a settlement unit and others. Also in 'space filter' a search can be made using the coordinate system and entering just numbers.

3 http://xgis.maaamet.ee/knravalik/knr (accessed 18 April 2012).

Figure 5

After a search, placenames that were found can be seen in tabular form (Figure 5), so that one can export the data into CSV format, or go to the map and see references to other databases, such as EKI (Eesti Keele Instituut) – Institute of Estonian Language (see Figure 6). Figure 7 shows the map.

Figure 6

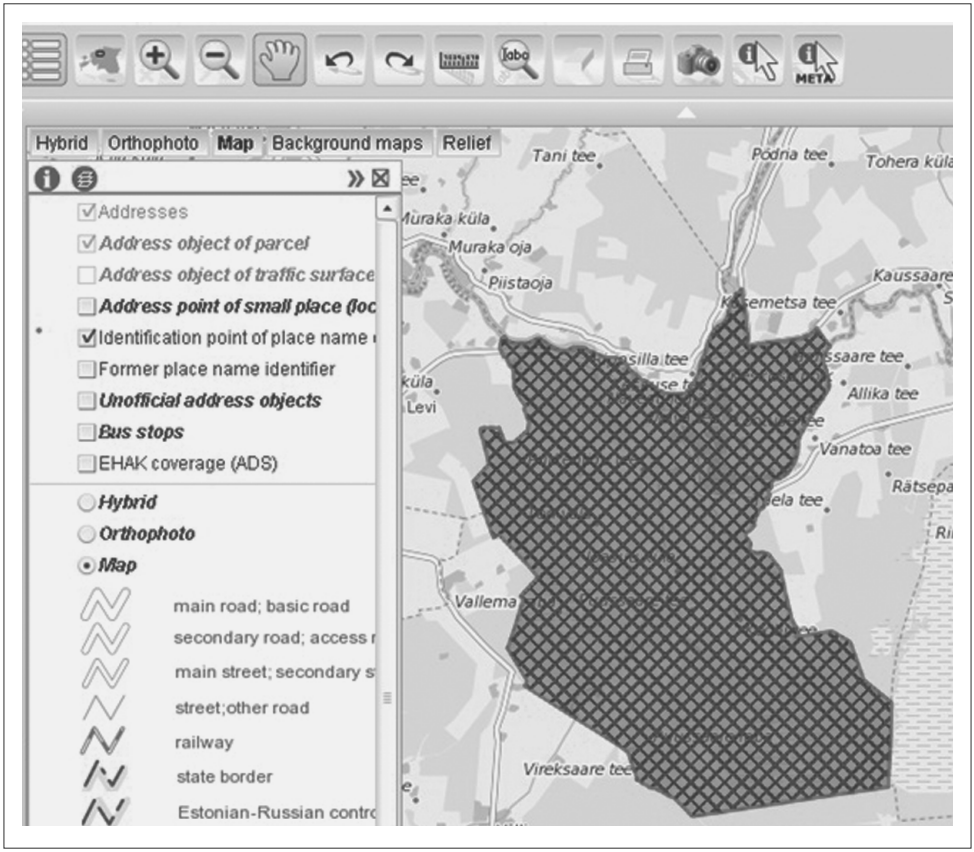

Figure 7

On the left, there is map layer selection and legend. For instance, one can turn on or off several selections that can be seen on the map – 'address objects of parcel', 'address object of traffic surface', 'address object point of small place', 'former place name identifier', 'unofficial address objects', 'bus stops', 'EHAK coverage' (*Eesti haldus- ja asustusjaotuse klassifikaator*) – Estonian Administrative and Settlement Classification, which is maintained be the Statistical Office of Estonia.

For the background view (Figure 8) one can choose from hybrid, orthophoto, map, background maps and relief. From the background maps there are options: basic map, coloured basic map, cadastral map (1978–1989 or 1930–1944), verst map, Estonian Republic (1935–1939) and Soviet military maps.

Use of old placenames

In 2009 the Estonian national museum proposed the use of brown road signs (used for heritage sights) to mark the territories of parishes (historical cultural areas, so to speak) as they were in 1918.

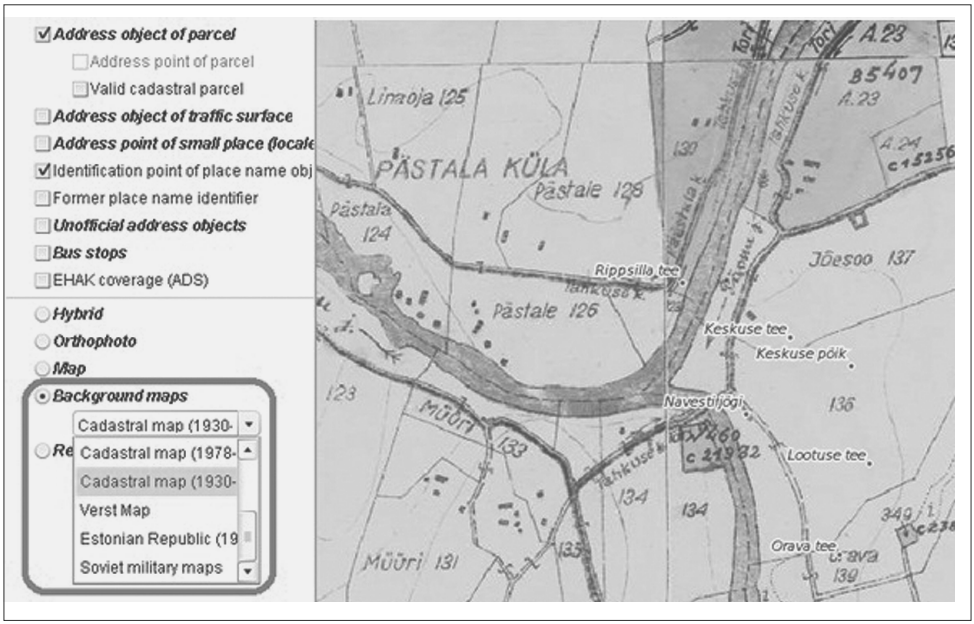

Figure 8

The parish (*kihelkond*) is still the foundation of our regional identity. Estonia's entire older cultural layer (dialects, folklore, material culture, etc.) is divided into parishes. If a folk song is sung, it comes from a certain parish; if folk costume is worn, it is the folk costume of a certain parish. Even now people are buried in their local parish churchyards. Marking of the historical cultural regions strengthens Estonians' regional identity and that helps to maintain native population in the regions. An additional value is that it gives more information to guests to the local region. A similar methodology was used in Tallinn, where historical settlements were marked with brown road signs.

By the end of the thirteenth century Estonia had 59 parishes and by the end of the sixteenth century 83. Before parishes were abolished in 1925, Estonia had 102 of them, as seen in Figure 9. The boldly distinguished colours represent counties. Historic parishes (*kihelkond*) held the municipal power just as the 226 local governments hold it today.

Spatial Data Act

On 17 February 2011 a new Spatial Data Act was approved by Parliament. This also necessitates some changes in the Place Names Act. One needs also to take into account the requirements of the Address Data Register (ADS).

Estonian state information system

On the state level the interoperability of different registers is provided through the state information system. The Estonian state information system consists of many parts, of which Figure 11 shows

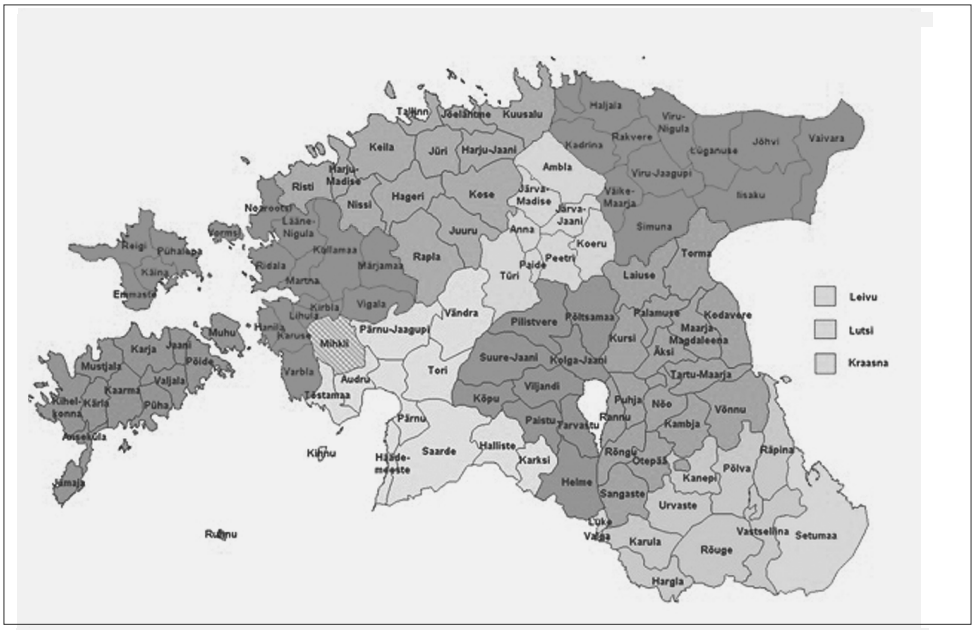

Figure 9: Parishes of Estonia (before 1925)

Figure 10: Local governments today - 226 (2012)

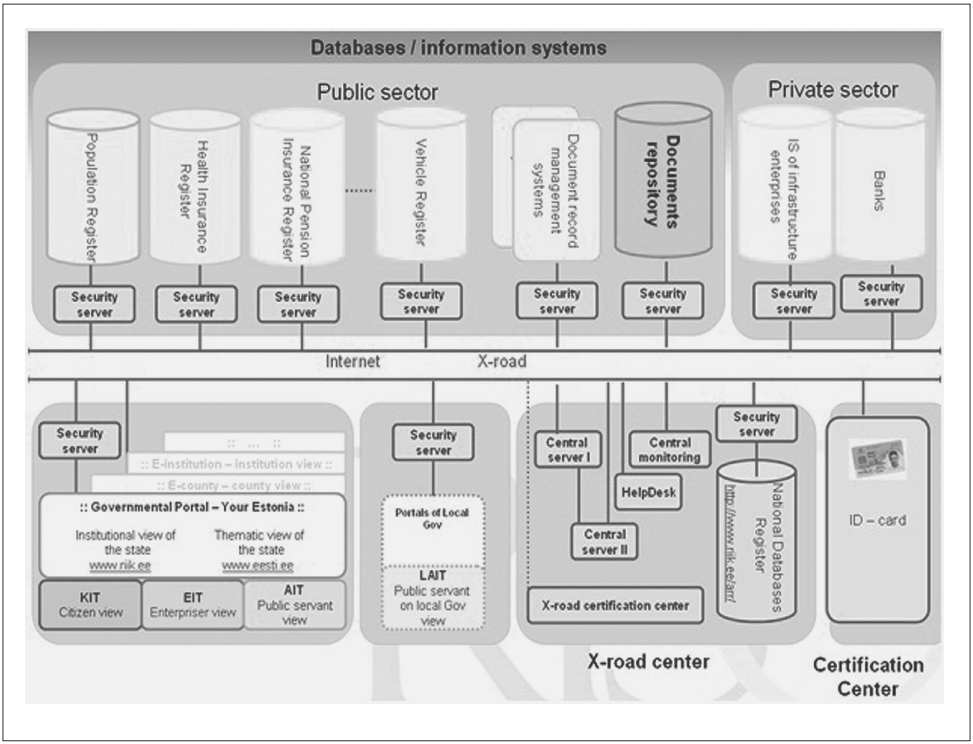

Figure 11: Estonian state information system

only a few. First are the systems and registers of the public sector. Among many others, the Place Names Register, ADS and the Estonian National Topographic Database (ENTD) belong here.

Secondly, there are databases from the private sector (for example, banks, infrastructure enterprises). Thirdly, there is the governmental information portal – Your Estonia – with all services which are offered to citizens. Fourthly, there are local government information systems. Then there is the State Register of Databases and X-road Certification Centre, and finally the ID-Card Certification Centre.

Registers

Figure 12 shows databases that are important for the establishment and use of placenames and addresses. The most significant ones are the Address Data System and the National Topographic Database.

Placenames and address data all reach the central Address Data System, where it is possible to analyze the data and find errors of logic. However, the ADS doesn't create data but collects

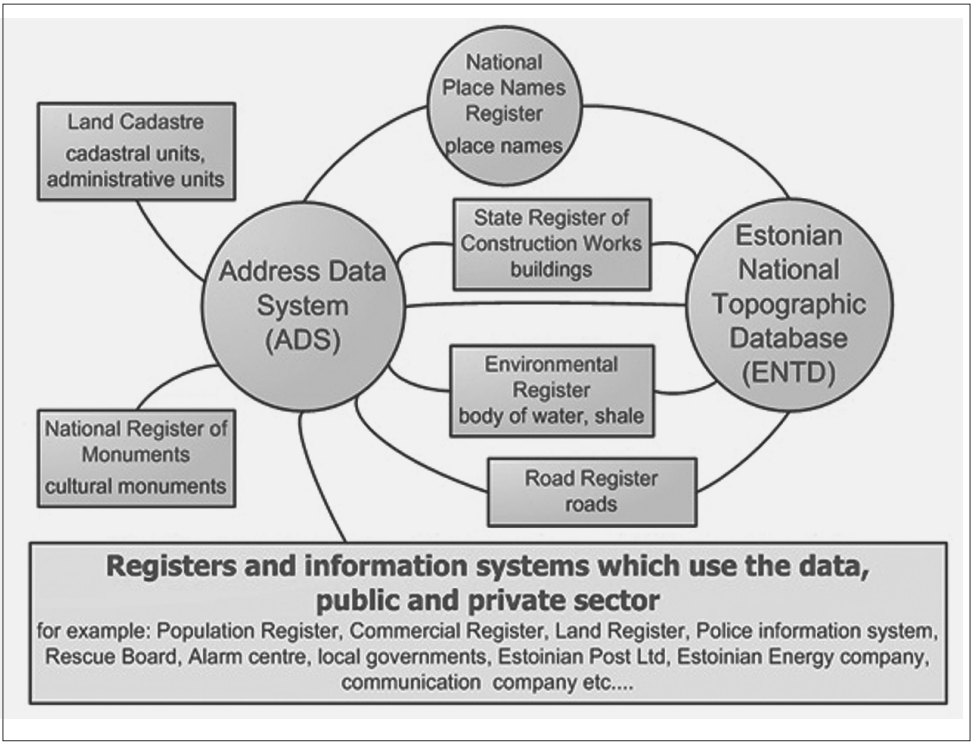

Figure 12

A major part of spatial data is held in the National Topographic Database; other information systems can use this data.

Address Data System (ADS)

ADS is a base for spatial data infrastructure and ensures the maintenance of the database. ADS is a framework for organizational, technical and legal tools that provide an unambiguous identification of address objects in their location and in different databases. It also ensures organizational uniformity when stating addresses and processing address data.

ADS consists of a central technological solution (ADS administration system), which includes interfaces for processing address data and providing address services, and databases processing address data. It also contains requirements for:

- The form of addresses
- Establishment of geographical addresses
- The chief processors of address data
- The chief processor of the ADS administration system

• Address services
• The processing of addresses.

ADS includes the following data:

• Placenames
• Geographical addresses
• Coordinates of address points
• The dates of commencement and termination of the validity of the address data
• Information on the status of address objects
• Spatial addresses
• And more…

ADS public service

The public service of the Address Data System makes it possible to search for different addresses and address objects, to view the objects on the map and to download the data in CSV format. The interface of the service is available in the Estonian and English languages.

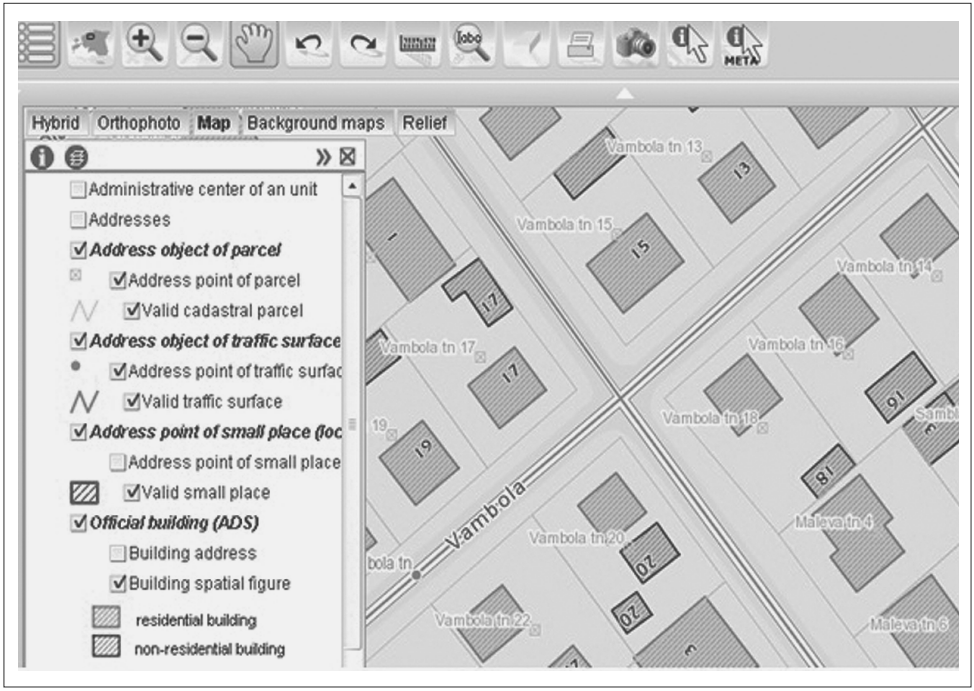

Figure 13: ADS public service map view

Figure 14

Figure 15

The layout for the search is quite similar to the Place Names Register's search. One can find address objects by name, by local government, by address unit, by traffic surface (otherwise known as streets), by number and through space filter by entering coordinate numbers. Search for unofficial address data is also available.

An important feature for searching addresses or objects is a search with address error (Figure 16).

Since there are regulations for addresses in order to ensure that they are compatible with various registers and databases, the service allows everyone to see the errors. Since the standardization of geographical names influences addresses also (which consist of placenames) the quality of address data is improving.

An example of address error: "Address is not unique, exists for other objects of the same type." This remark comes up when two houses in dense settlement have the same addresses. It is important to differentiate between dwelling houses and buildings that are not used for residential purpose – since only dwelling houses have a uniqueness requirement. The further apart these two houses are, the bigger the problem.

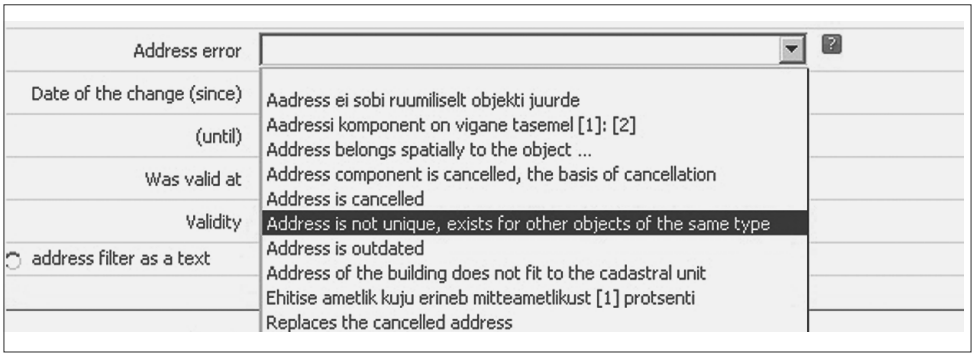

Figure 16

Figure 17 shows the map view.

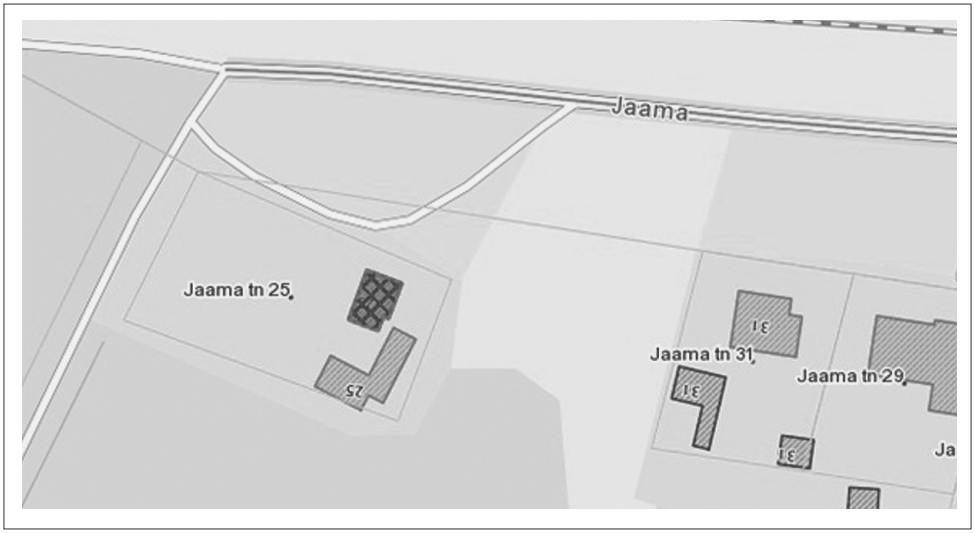

Figure 17

Place names and geographical addresses on the map

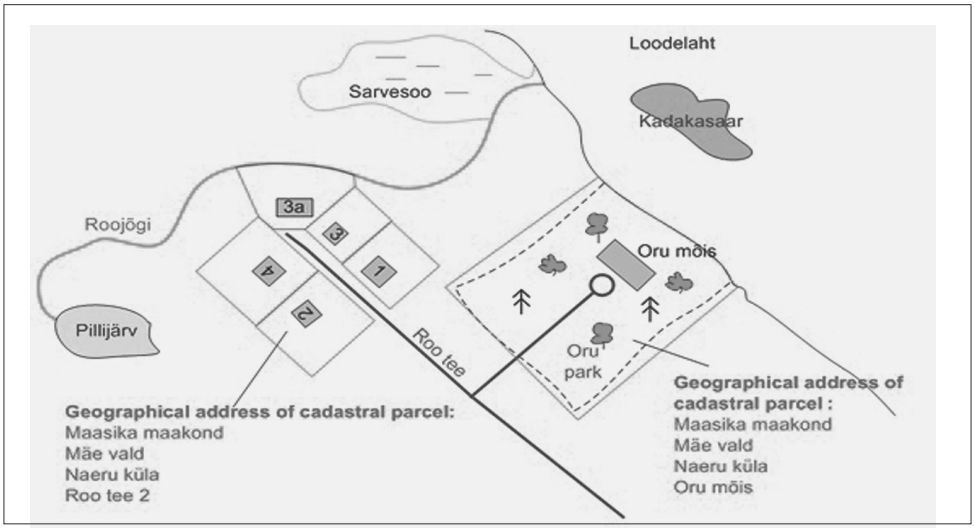

Figure 18

A geographical addresses consists of a placename to which, if necessary, is added a number and a letter attribute. For example, *Roo tee* in Figure 18 is the placename and no. 2 is the number attribute.

Thus, the most important thing for the quality of geographical addresses is the establishment of placenames fit for purpose.

The Handbook

The field of address data is large and lots of questions have emerged. The Estonian Land Board has a Department of Address Data, which coordinates the standardization process and advises on procedures. The department currently has nine workers, with additional staff planned for. A place was needed where information could be assembled. The solution was an online book which could be easily accessed and updated. Since the information in this field is changing and work is ongoing, there is a need for specification and supplement.

Figure 19: Address Data Handbook – all one needs to know about Estonian addresses

The target group for the online book consists of:

- Local government officials
- Database, register and information systems managers
- Private sector information system managers
- Companies that provide services for infrastructures
- Educational institutions
- Statistics, rescue, police and ambulance workers
- Real estate professionals
- Software developers
- And all other parties who find the field interesting.

The web book consists of 68 chapters (about 180 pages of text) and includes the following:

- Explanations for definitions used in relation to placenames and addresses
- More detailed description of rules and administration
- Management for geographical addresses
- Description of common errors
- Address data in other national registers
- Guidance for information system developers.

At the moment, the handbook is available only in Estonian.

Figure 20

Institutions

Ministry of Internal Affairs[4]

Coordinator of placenames. Drafts national legislation, performs supervision in the field of placenames.

Figure 21

4 http://www.siseministeerium.ee/ (accessed 18 April 2012).

Place Names Board[5]
Gives advice to authorities and officials approving placenames.

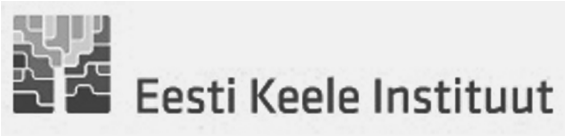

Figure 22

Institute of the Estonian Language[6]
Office of onomastic expertise; consults in linguistic matters, performs linguistic supervision.

Figure 23

Estonian Land Board[7]
Coordinates standardization of placenames and address data, consults in standardization procedures.

More information

Estonian Land Board: http://www.maaamet.ee/
Place Names Act: http://www.legaltext.ee/et/andmebaas/paraframe.asp?loc=text&lk=et&sk=en&dok=X70058.htm&query=kohanimeseadus&tyyp=X&ptyyp=RT&pg=1&fr=no
Government of the Republic Regulation: No. 251 of 20 December 2007 "Address Data System": http://www.legaltext.ee/et/andmebaas/paraframe.asp?loc=text&lk=et&sk=en&dok=XXX0011.htm&query=aadress&tyyp=X&ptyyp=RT&pg=1&fr=no
National Place Names Register in English: http://xgis.maaamet.ee/knravalik/knr?LANG=EN
Estonian Land Board Geoportal: http://geoportaal.maaamet.ee/eng/
Address Data System (ADS): http://geoportaal.maaamet.ee/eng/Address-data-query-p389.html

5 http://www.eki.ee/knn/index2.htm (accessed 18 April 2012).
6 http://portaal.eki.ee/ (accessed 18 April 2012).
7 http://www.maaamet.ee/ (accessed 18 April 2012).

EuroGeoNames (EGN) – Implementing an INSPIRE service

Pier-Giorgio Zaccheddu, David Overton and Saulius Urbanas EuroGeoNames

Abstract. EuroGeographics, the association for national mapping, land registries and cadastral agencies of Europe, now has 56 members in 45 countries. Products and projects coordinated by EuroGeographics focus on the best way to use existing national spatial data infrastructures (SDIs) to create a European Location Framework (ELF). EuroGeoNames represents the first step toward the ELF and was developed as a result of a EuroGeographics collaboration to provide a service based on official geographical names (including their exonymns).

Our presentation and demonstrations will cover the following:

Management of names

- Official sources
- Reliable exonymns / 25 languages
- Quality assessment regime
- Europe's first INSPIRE-compliant service: influence of the project upon the INSPIRE GN specifications

Management of cross-border features

- Lifecycle management via unique identifiers
- Linkage by use of exonymns and variant name data base

Managing the services: a distributed architecture

- A distributed architecture creates efficiency
- Centralized functions provide linkages
- Technically supporting the suppliers

An up-to-date architecture and the future

- Implementing a new architecture
- Benefits of the cloud
- Using this architecture for all other themes.

Together with the official names suppliers and groups such as the United Nations Group of Experts on Geographic Names (UNGEGN) we have succeeded in simplifying the EGN specification and testing our solutions with key customer groups. We have understood pricing and licensing, access and supply preferences and proposed business models to support these. In the meantime we have boosted the number of connected countries to 15 in 2011 with an active programme aimed at connecting 27 nations. We have also incorporated EGN into demonstration of the European Location Framework (ELF)1 to allow searches via, and download of, geographical names. Many more national mapping, land registry and cadastral agenciesare expected to make their geographical names data available via EGN. Certainly the most efficient way to meet.

INSPIRE compliance for this important INSPIRE Annex I theme is by adopting:

- the EuroGeoNames data model and
- the EGN approach in setting up a service for national names data.

Keywords: geographical names; exonym; endonym; web feature service; cloud architecture

Executive summary

The EuroGeoNames (EGN) project funded by the eContentplus programme of the European Commission (EC) started on 1 September 2006 and the funded period lasted until 28 February 2009 with a project budget of €1.8 million. During the funded period a European geographical names infrastructure was established by connecting existing national official data sources of the participating National Mapping and Cadastral Agencies (NMCAs). In this way the geographical names data is updated in a consistent way and maintained at the source level by the responsible organizations.

Recognized as a very successful project by the European Commission and the project partners, EGN then progressed to become the first INSPIRE[1]– compliant service in Europe during the implementation phase (to 2012). EGN now provides excellent opportunities for EuroGeographics and its members to meet future requirements in their role as reference information providers for national and European spatial data infrastructures. Between 2009 and the end of 2011, the overall management of the EuroGeoNames infrastructure was conducted by EuroGeographics together with the German Federal Agency for Cartography and Geodesy (BKG).

Implementation continues in 2012 as EGN moves closer to its aim to achieve at least EU27 coverage as a part of an initiative to make EuroGeoNames self-sustaining. A new architecture and management approach for EGN was explored partly within the ESDIN project (a European Spatial Data Infrastructure Network) in collaboration with the EGN Coordination Committee. In this project best practice has been sought for reaching INSPIRE compliance and creating harmonized pan-European location data and services. As Geographical Names was one of the five themes delivered by ESDIN in 2011, there were a number of insights and improvements which are now included in the EuroGeoNames implementation.

Background

The increasing use of public domain geographical information, especially geographical names data, raises an interesting question given the pedigree of such data: who decides where (for the general population) European places are and how they are spelled?

1 In Europe a major recent development has been the entering in force of the INSPIRE Directive in May 2007, establishing an infrastructure for spatial information in Europe to support Community environmental policies, and policies or activities which may have an impact on the environment. INSPIRE is based on the infrastructures for spatial information established and operated by the 27 Member States of the European Union. The Directive addresses 34 spatial data themes needed for environmental applications, with key components specified through technical implementing rules. This makes INSPIRE a unique example of a legislative 'regional' approach.

Owing to the multilingualism and cultural richness of Europe, its people use different spellings and languages when talking about the same location and even within a country more than one spelling may be used. This is a European situation that should be considered a matter of pride and not an obstacle. Thus, the full richness, completeness and high quality of European data seem only to be guaranteed if the data providers are the individual European countries – creating and maintaining the source data themselves.

According to existing popular web services, using public domain data sources, the answer would appear to be that by default, and in lieu of a European alternative, it is not the respective National Mapping and Cadastral Agency (NMCA) – or another national institution – that decides where, for example, Bruxelles/Brussels is located and how it is spelled.

Objectives and achievements

Within the EU-funded period (1 September 2006 – 28 February 2009) the EuroGeoNames (EGN) Consortium implemented a web (gazetteer) service infrastructure for providing official geographical names data in Europe, in conjunction with about 20 European NMCAs, to help

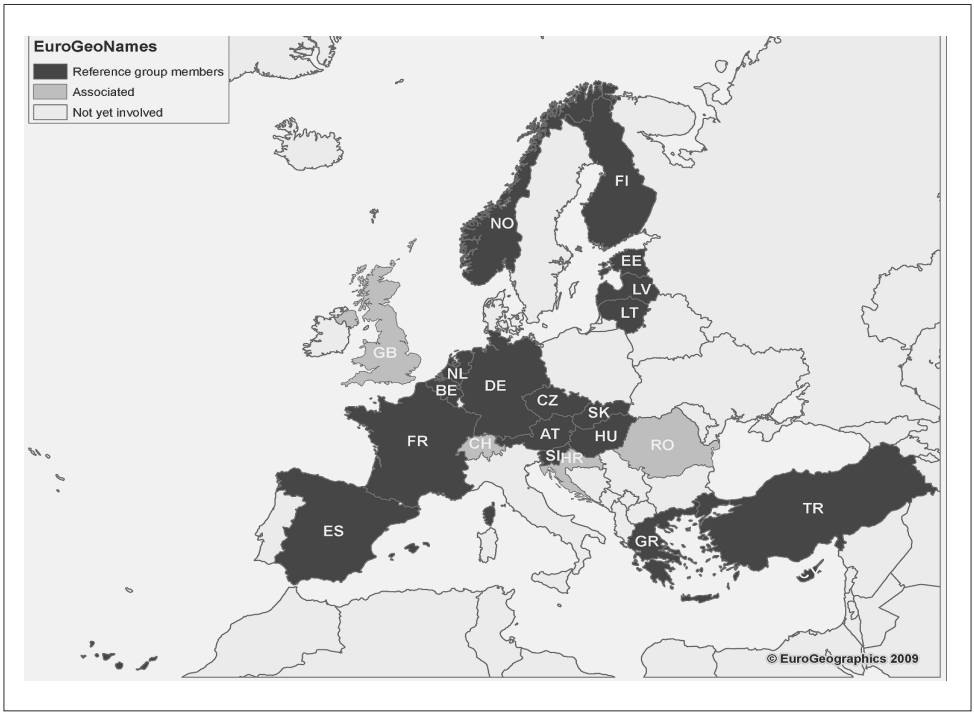

Figure 1: Participating and associated National Mapping and Cadastral Agencies (NMCAs)

one to find the official spelling of a name, together with its spelling in other languages, its geographical location, its pronunciation, etc.

The official geographical names data kept decentrally in the EU countries is linked to and searchable via so-called 'Web Feature Services – WFS'. A so-called 'EGN Central (WFS) Service' accesses the distributed 'EGN Local (WFS) Services' at each data provider (NMCA) to query the EGN data network and return standardized result sets (in XML) to the inquirer. The data maintenance and updating process remains the responsibility of the countries that have collected and maintained them. An exonyms and other variant names database (EVN-DB) comprises important names used in a specific language for a geographical feature situated outside the area where that language is spoken, and differing in its form from the name used in an official or well-established language of that area where the geographical feature is located. These names are not part of the databases of the participating NMCAs of the EGN project. The EVN-DB is a supplementary database to the EGN Central Service and each (standardized) exonym and other variant name is linked unambiguously with the appropriate official endonym(s) provided by the NMCAs. An online-editing service serves to maintain the EVN-DB in future. Single requests (currently limited to 50 requests per day for anonymous users) for geographical names by using the EGN Central Service are free of charge.

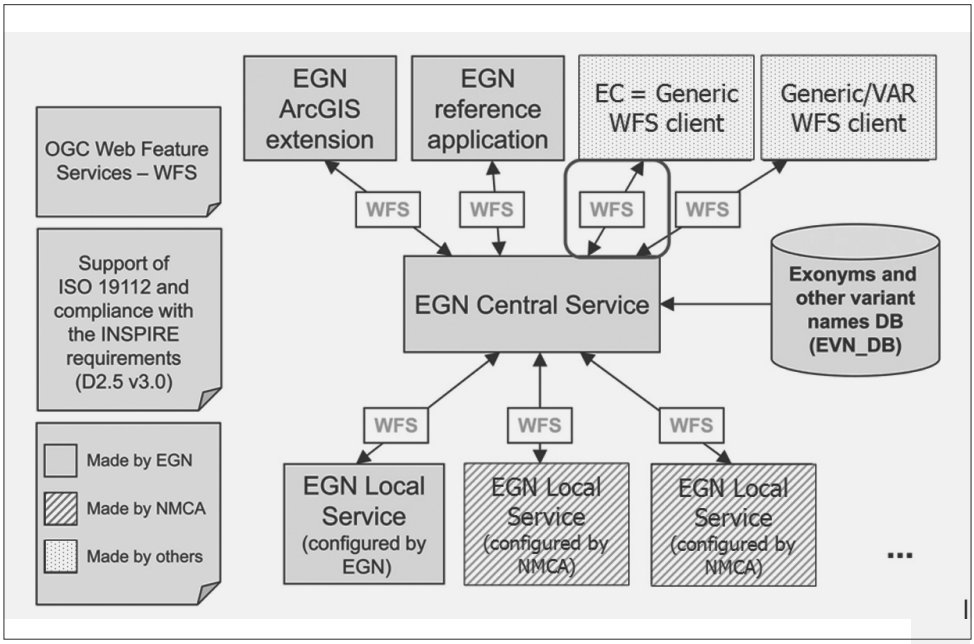

Figure 2: EuroGeoNames services' architecture

Generally, the EGN Consortium aimed at being as compliant as possible with the findings of the INSPIRE initiative. The major strength is that the EGN gazetteer model is compliant with the INSPIRE gazetteer model (which is based on the ISO 19112 standard). As for the final version of the INSPIRE data specification for geographical names, it can be stated that the output of the EGN Central Service can be mapped to the INSPIRE data specification and that EGN currently conforms to all content mandatorily required by INSPIRE.

EGN is targeted primarily at value-added resellers (VARs) and service providers to develop specific applications for their customers and deploy value-added Geographic Information System (GIS)[2] products by using the EGN Central Service. The end user has access to this information either through the gazetteer service interface or through the applications (end-user interfaces). Two applications have been developed within the funded period.

The first one is the so-called EGN Reference Application,[3] which enables searching for geographical names in all official European languages, including officially recognized minority languages, showing the full functionality of the EGN infrastructure. The second one is the EGN ArcGIS extension developed by ESRI. This extension enables ArcMap to perform name searches based on several query criteria and to analyze, visualize and save the results in a standard GIS software environment. The EGN ArcGIS extension is available as a free download through ESRI ArcScripts.[4] Other applications, developed by third parties, will be encouraged.

Status of the EuroGeoNames infrastructure

Since development of this infrastructure the main task has been to ensure the service can be sustained in the medium to long term. Boosting the number of connections to achieve a "critical mass of content"[5] continues as we progress toward full EU27 coverage.

The quantity of geographical names data in the respective countries is variable, and depends on the general shape of the country, the map scales used as the basis for data acquisition, as well as on the level of information detail required in the countries themselves. It varies from 1:5,000 (e.g. Cyprus) and 1:10,000 (e.g. The Netherlands) to 1:200,000 (e.g. Germany). In thei nitiation

2 A geographic information system is a system designed to capture, store, manipulate, analyze, manage, and present all types of geographical data. The acronym is GIS, A GIS facilitates the merging of cartography, statistical analysis, and database technology.

3 http://www.eurogeonames.com/RefAppl/ (accessed 30 March 2012).

4 http://arcscripts.esri.com/ (accessed 30 March 2012).

5 As stipulated by the eContent funding.

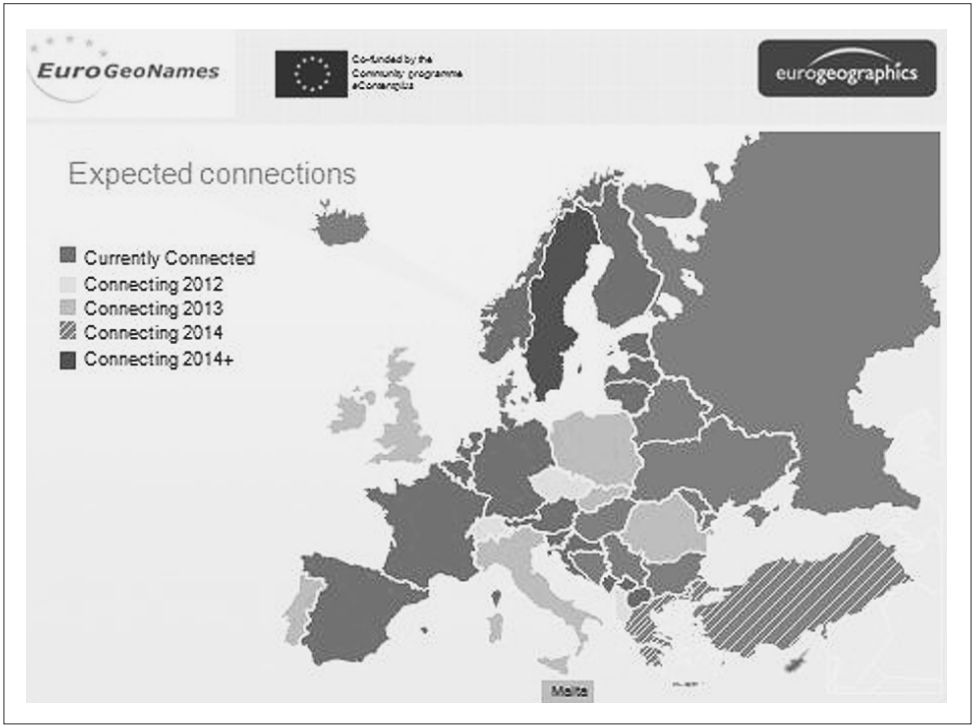

Figure 3: Overview of connected National Mapping and Cadastral Agencies and plans for the EU27

phase of EGN, a remarkable amount of time was required for analyzing the data to be aggregated during the project. A gazetteer service allows a client to search and retrieve elements of a geo-referenced vocabulary or database of well-known geographical names or named places in general. Each named place is associated with one or several geographical names, i.e. proper nouns applied to a spatial object. The different geographical names of one given spatial object may be, for example, the names in different languages or in different forms (e.g. complete and short forms of country and administrative unit names). The scale information is not relevant. It is of more importance that, for example, all geographical names of 'administrative units' are available. The minimum content of attributes for a gazetteer service is: geometry, describing the footprint or a reference point of the named place as well as one or several type(s), characterising the kind of entity represented by the named place (e.g. 'administrative unit').

Currently, the connected German service provides about 90,000 entries, the Finnish one about 808,000 entries. Thus, assuming that about 20 countries mentioned above will be connected to EGN in 2012/2013, the quantity of geographical names may lie between 2.8 million and

and 3.5 million entries (endonyms). In addition, about 8,000 exonyms and other variant names will be linked to the national databases.

Target users and their needs

Within the EGN project, the market in terms of potential applications and related business actors and stakeholders, from both public and private sectors, was analyzed, as well as user and business requirements based on the outcome of the market analyses described. As for the target user groups, the following ones can be distinguished:

- Emergency services; health and safety
- Cross-border market analysis and asset management
- Border crossing routing; transport and delivery service networks
- Hotel reservation services, tourism
- Private-sector map and atlas producers
- Educational establishments, libraries
- Mass media (newspapers, TV)
- Location based services (LBS).

Generally, the JRC INSPIRE geoportal is potentially a user for EGN, as well as agencies of the European Commission, such as Eurostat, and also commercial actors like Google, Yahoo, Microsoft, Tele Atlas, Nokia.

The so-called 'EGN Group of Interest', comprising 26 organizations (standardization bodies, private GI companies, cartographic publishing houses, GI interest groups, etc.) potentially interested in using the EGN infrastructure and services too, was invited to join, comment and shape the EGN project activities from the beginning in 2006 and to provide 'customer feedback' by participating in workshops.

The unique selling points (USP) and qualities of the EGN infrastructure and services for Europe are that:

- The names data provided are from a primary source.
- It is continuously updated.
- It is more detailed than other names data.
- It is closer to the experts that collect the names.
- There is better quality control through official cooperation.
- It is based on European standards.
- The data is generated by trustworthy institutions providing unbiased products.

ESDIN: a European Spatial Data Infrastructure

ESDIN – a European Spatial Data Infrastructure with a best practice network – is dedicated to maximizing the use of data from our National Mapping and Cadastral Agencies (NMCAs). Funded by the eContentplus programme of the EU, the project promises to provide the guidance needed to meet the demands of the INSPIRE legislation.

The project emerged during an exciting period in the history of digital content. ESDIN embraces the trends we have seen developing in the use of GI and in parallel markets as the world wakes up to the power of geographic information and insists on simpler ways to access it. As Geographical Names is one of the themes ESDIN covers, the project offered the chance to demonstrate geographical names services as the cornerstone of a future European Spatial Data Infrastructure. As a result EuroGeoNames is referenced for the proposed extended INSPIRE specifications that ESDIN offers, and implementations within the ESDIN project include EuroGeoNames. Exploiting expertise from the national mapping, commercial development and academic worlds, the twenty partners offer best practice when maximizing the use of public sector mapping data.

Making EGN sustainable – a European Location Framework

EuroGeographics' projects support key European initiatives designed to reduce the barriers to use and re-use of crucial public sector information. Our projects and products show that the INSPIRE dream is real and will be made more effective by applying common practical approaches to harmonization in data and services. All our work helps create a consistent and trusted European Location Framework (ELF).

A service based on official geographical names (including their exonymns) is a crucial first step toward the ELF. EuroGeoNames continues to be supported and extended by EuroGeographics, together with the German Federal Agency for Cartography and Geodesy (BKG) and the Finnish Geodetic Institute (FGI).

As a first stage, in spring 2009, the EGN project coordination was transferred to EuroGeographics. BKG continued to function as the 'service centre' for hosting the EGN Central Service, the Reference Application and the exonyms and other variant names database, as well as for providing technical support to NMCAs and pilot customers. From mid 2012 this function, as well as the technical support activity, will be transferred to FGI.

We have been successful in growing the connections of national databases to the EGN service to 15 by the beginning of 2012 and the initiatives to grow this further include awareness campaigns and activities with key users, suppliers and influential groups. These activities include:

- Involvement with the United Nations group of experts on geographic names;
- Providing necessary advice, software and online tools to ease the task of mapping to the EGN specification and the creation of local web feature services;
- Workshops and questionnaire with national mapping and cadastral agencies on proposed pricing and licensing, access and supply preferences;
- Increasing basic coverage for the whole of Europe by including names data from alternative sources;
- A test programme, interviews, questionnaires and meetings with all key customer groups;
- Boosting the number of connected countries to 20 with an active programme aimed at connecting 27 nations;

- Incorporating into the EuroGeographics demonstration European Location Framework (ELF)[7] to allow search and download of geographical names.

The creative problem-solving approach by the EGN Coordination Committee sets out a plan to improve accessibility and usability of the offering and now shapes the proposition for a sustainable EuroGeoNames. EGN may become the first INSPIRE-compliant service in Europe providing excellent opportunities for EuroGeographics and its members to meet future requirements in their role as reference information providers for national and European spatial data infrastructures. After 2012 the ambition is for EGN to become a component in EuroGeographics' services infrastructure.

Future plans

Events like the one-day workshop on EGN at the UNGEGN regional conference in Zagreb (11 February 2011) have helped us to engage with suppliers and users at the same time. Such activity will boost the number of connections as we gain a unique insight on core issues and take the opportunity to address them.

Our future plans are backed up by a budgeted commitment from EuroGeographics specifically to:

- Improve user interfaces to meet user requirements;
- Implement a new and more flexible and performant cloud-based architecture to accommdate different feeds and cache NMCA data;
- Launch with an offline gazetteer product;
- Continue with a phased approach to other offerings;
- Increase the exonym and variant names database content;
- Continue to improve the quality of content by providing free analysis of supplier data;
- Transfer the hosting and technical support responsibilities from BKG, Germany to FGI in Finland;
- Implement a simplified data model that is standards-compliant, removes some complexity for the suppliers and yet retains the ability to provide multilinguality and the association of exonyms to endonyms.

7 EuroGeographics' activities focus on underpinning the European Spatial Data Infrastructure with the definitive reference data collected, maintained and provided by our members. This infrastructure will provide the location framework for Europe as comprehensive resource for government, businesses and citizens. Find more about the European Location Framework (E.L.F) from the white paper: http://www.eurogeographics.org/sites/default/files/E.L.F%20white%20paper%20v.1.0.pdf.

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Mapping Solutions

Réitigh léarscáilíochta

Synchronizing the Ordnance Survey Ireland (OSi) and Placenames Branch (logainm.ie) Bilingual Toponymic Datasets

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Fiontar, Dublin City University.

Abstract. Ordnance Survey Ireland (OSi) is committed to producing mapping which displays placenames in Irish and in English as required by legislation.

This joint project by OSi and Fiontar, DCU, aims to synchronize OSi's Townlands spatial database, which currently only holds the English text, with the Irish-language townland names in the Placenames Database of Ireland, logainm.ie. Logainm.ie is being developed by Fiontar, DCU, in collaboration with the Placenames Branch of the Department of Arts, Heritage and the Gaeltacht.

Standard geocoding and address-matching techniques were used to connect the Irish placename text to its correct geographic location and official OSi Townland ID, using the English text as a common link. Pending the successful outcome of this initial work, there is the possibility to extend the project to include street names and other Irish text with a geographic reference.

This work will ultimately facilitate effective use of the validated Irish text in OSi mapping, in particular its new MapGenie web service, which makes national map data easier to access than ever before by allowing consumers to view mapping online, and embed map services within their own websites and applications. The synchronization will also result in each place object in the logainm.ie database having its correct xy coordinate recorded as an attribute, thereby increasing the reliability and accessibility of the database.

Keywords: mapping, placenames, geocoding, spatial datasets, toponymic data

Background to project

This joint project by OSi and Fiontar, DCU, aims to synchronize OSi's Townlands spatial database, which currently only holds the English text, with the Irish-language townland names in the Placenames Database of Ireland, logainm.ie. This work will ultimately facilitate effective use of the validated Irish text in OSi mapping and will also result in each place object in the logainm.ie database having its correct xy coordinate recorded as an attribute, thereby increasing the reliability and accessibility of the database.

History of Ordnance Survey Ireland

OSi is the national mapping agency and has been mapping Ireland since 1824. It has a mandate to create and maintain the definitive national mapping and related geographic records of the state, including the maintenance of the national grid and the national geodetic and height frameworks, and to link these to international systems.

Ordnance Survey Ireland has evolved from the Ordnance Survey Office, which was established in 1824. This office was initially part of the army under the authority of the Board of Ordnance, the military body responsible for mapping in Britain since 1791. Although the Office had been civilianized before the establishment of the Irish State in 1922, all staff employed by the Survey, with few exceptions, were enlisted through the army until the 1970s, when the first civilian employees were recruited.

The Ordnance Survey Office was established to carry out a survey of the entire island of Ireland to update land valuations for land taxation purposes. The original survey at a scale of six inches to one mile was completed in 1846, under the direction of Major General Colby. Ireland thus became the first country in the world to be entirely mapped at such a detailed scale.

In the course of surveying the country, the staff of the Office was responsible for a number of advances in surveying practice. These ranged from Drummond's limelight to the bimetallic parallel bars used to measure distance to a previously unattainable level of accuracy. The drive to improve technical capability has continued to remain a prime value in ordnance survey work to the present day.

The Office was located in Mountjoy House in the Phoenix Park. Mountjoy House was originally built in 1728. It later housed the mounted escort of the Lord Lieutenant, who resided in the Vice-Regal Lodge (now *Áras an Uachtaráin*, residence of the President of Ireland). Mountjoy House and its surrounding buildings still serve as the headquarters. The Office continued to operate under the agency of the Department of Defence for most of the nineteenth century. Following the establishment of the Irish Free State in 1922, central responsibility for the Office was transferred to the Department of Finance in 1924.

Ordnance Survey Ireland operated as part of the Government's civil service until 2002 when it became a state body under the Ordnance Survey Ireland Act 2001. Under this Act, Ordnance Survey Ireland continued its mainstream public service function of creating and maintaining

the definitive mapping records of the state and also assumed the commercial function assigned to it under the Act of developing its commercial business.

Central responsibility for Ordnance Survey Ireland was transferred from the Department of Finance to the Department of Communications, Energy and Natural Resources with effect from 1 January 2008.

OSi's mandate from government expands on its mission statement and outlines the principal responsibilities of Ordnance Survey Ireland as follows:

- To maintain and develop the underlying physical infrastructure to support mapping and mapping applications, including the maintaining of a national grid and the geodetic and height frameworks, and to link these to international systems.
- To create and maintain for the entire state mapping and related geographic databases which have national consistency of content, currency, style and manner.
- To provide mapping and related geographic data to the public and private sectors in support of social, economic, legislative, security, business and administrative functions and requirements.
- To encourage and promote the benefits of the use of OSi's national mapping and related databases and to promote the development of its products, services and markets to meet national and user needs.
- To advise government and public sector organizations on matters relating to the policy and practice of survey, mapping and geographic information and on the development of national spatial database infrastructures.
- To represent the state at international level on matters relating to mapping and geographic information.
- To provide the necessary technical support to the Chief Boundary Surveyor in the performance of his/her duties in delimiting statutory boundaries and the delineation of such bounries on maps.
- To depict placenames and ancient features in the national mapping and related databases in the Irish language or in the English and Irish languages.
- To protect government copyright on OSi databases, products and published material.

(Ordnance Survey Ireland 2012)

History of the Placenames Branch

The Placenames Branch[1] was established in 1956 and was attached to the Ordnance Survey until 1999 when it was moved to the Department of Arts, Heritage, Gaeltacht and the Islands,

1 See further information in Dónall Mac Giolla Easpaig's paper to this workshop, 'Placenames Research in Ireland' and in Mac Giolla Easpaig (2008).

now the Department of Arts, Heritage and the Gaeltacht. Research of the placenames of Ireland is undertaken by the Placenames Branch, in cooperation with *An Coimisiún Logainmneacha* (The Placenames Commission), in order to establish the correct Irish-language versions of those names for official and public use. Once established, the Irish versions are given equal legal status with their English-language counterparts by means of a statutory order, known as a placenames order, made by the Minister for Arts, Heritage and the Gaeltacht, on advice from the Placenames Commission under the provisions of the Official Languages Act 2003.

The Placenames Database of Ireland

In 2007, the Placenames Branch entered into collaboration with Fiontar, a school within Dublin City University which specializes in digital humanities projects for the Irish language, to create the Placenames Database of Ireland. This is a comprehensive management system for data, archival records and placenames research conducted by the Irish State over the past sixty years. A public website, www.logainm.ie (logainm.ie hereafter), was launched in October 2008. This website, which makes available the official Irish-language versions of the placenames of Ireland, is a public resource primarily aimed at journalists and translators, students and teachers, historians and researchers. In 2010, as an addition to the search interface already available on the website, a mapping interface which uses Google Maps API and the Google Aerial Imagery, was added to the site.

Requirement for Irish language on national mapping

Ordnance Survey Ireland (OSi) is obliged by law to depict placenames and ancient features in the national mapping and related databases in the Irish language or in the English and Irish languages.

The Irish Constitution states that the Irish language as the national language is the first official language, and that the English language is recognized as a second official language. Public bodies have a duty to comply with the rights of the Irish public to conduct business through the Irish language. However, in practice, less emphasis is sometimes placed on delivering the same level and quality of services in Irish as in English.

OSi fully acknowledges the Irish public's right to have access to and consume national map data in both languages; however, it faces two challenges in delivering high quality products and services in this respect:

1. Cartographic text placement

Appropriate cartographic text placement is a challenge in one language; depicting two languages can be difficult and sometimes impossible, depending on the scale of the map. OSi's traditional paper and digital raster map products, such as the Discovery Series, are created by a team of cartographers and go through extensive quality control to ensure that text placement is correct and that Irish- and English-language placenames are used where possible. This results in a three-yearly update cycle.

Newer online digital products such as OSi's MapGenie web service, launched in 2010, require a faster update cycle and use automated text placement software to achieve this. Unfortunately it is not possible to display text in two languages using this software, which only leaves the option to display one version using the English language, and one using the Irish language.

2. Combining/consolidating government databases
As the Placenames Branch is no longer attached to OSi, OSi does not hold the validated Irish text for placenames; it does, however, map the correct geographic location of those placenames. As a result, the two key components of this spatial dataset are stored and managed in two separate databases by different government organizations. OSi and the Placenames Branch have both recognized the need to combine this dataset and are making a concerted effort to achieve this.

OSi is currently nearing the end of its Prime2 database re-engineering project, and this new data model is designed to easily facilitate the storage and maintenance of third-party data from a technical perspective. This is now is an ideal time to address the issue outlined above.

Ultimate goals
The ultimate goal of this project is to match the validated Irish-language placename text to its correct spatial location, and to devise an ongoing update process by which both Ordnance Survey Ireland and the Placenames Branch can manage and maintain this dataset.

In addition to this, it is a key objective of OSi to create an Irish-language version of its online mapping service MapGenie, so that it can meet its government mandate and comply with the constitutional rights of the Irish public as outlined above. This will allow OSi to include an Irish-language version of the mapping on its online shop and other mapping applications, and will also facilitate the use of Irish-language basemapping in other organizations' websites which have this requirement, such as the logainm.ie site.

Project to date

Project beginnings
The initial project began late in 2010 when, in an effort to create an Irish-language version of MapGenie – 'MapGenie Éire', OSi realized that while it holds some of the national placenames in Irish as part of its National Gazetteer product, it does not have all of them. Most notably, most of the Irish-language text was missing from the national Townlands database.

While researching the possibility of acquiring the missing Irish-language placenames from the Placenames Branch, OSi noticed that the logainm.ie site used Google Aerial Imagery for backdrop location on its mapping interface. Fiontar and the Placenames Branch were at the same time considering the possibility of using OSi maps on logainm.ie. It became apparent to all parties that a combination of datasets would improve the web mapping available in both organizations, and from here the initial steps were taken in matching databases.

Geocoding logainm.ie data (Stage 1): Automatic address mapping

With the goal of using Irish-language placenames from the Placenames Database of Ireland on OSi maps and using the OSi MapGenie on logainm.ie, the objective was to associate the Irish names in the logainm.ie database with the geographic coordinates in the OSi database, and thus geocode the geographic data contained in the former by creating a link between geospatial objects ('places') in the two geographic datasets.

The task of creating a link between objects in the two datasets was not entirely straightforward. Firstly, although the logainm.ie dataset included coordinate data in the case of some objects, this data did not match exactly, in format or in some cases in accuracy, the coordinate data contained in the OSi dataset, as the logainm.ie coordinate dataset is based on an earlier Ordnance Survey dataset. Secondly, in many cases, objects in the logainm.ie dataset did not include coordinate data. Thirdly, while objects in both datasets included an English placename, there was no guarantee that they would match in all cases. It was inevitable therefore that a two-stage approach would be required, with the first stage involving an automated coordinate and address mapping process, and the second stage involving the manual process of checking, correcting and supplementing the output from Stage 1.

The process followed is outlined in the following list:

1 OSi supplied Fiontar with a full list of places and associated data from the OSi database.
2 Fiontar wrote and ran a computer program that took as input fields of data from the listmentioned in (1), namely the unique OSi identifier, the OSi English name, the OSi place type, and a set of OSi coordinates in 'Irish Grid' (IG) format, and output a list displaying a mapping between the place objects from the OSi database and the matching places in the logainm.ie database. For each OSi place, the program searched for the place in the logainm.ie database that was closest geographically (by measuring the distance between the two sets of coordinates) to the OSi place. The English placename of the closest candidate place was then compared to the English placename of the OSi place. If the names matched exactly, the match was deemed to be 'perfect'. If either name contained the other, the match was deemed to be 'good'. If the names were not found to be the same or similar, the absence of a match was tagged as 'none'. Where no match was found, in most cases, the root cause was an absence of any coordinates in the logainm.ie database ,which resulted in bogus candidates being generated for the address-matching stage. The program output 'perfect' matches in 85% of cases, 'good' matches in 0.2% of cases, and no match in 14.8% of cases, which equated to 8,373 matches needing to be added manually.
3 The output of (2) was manually checked using a variety of sources, and corrected where necessary (see Stage 2 below).
4 Following (3), the list of unique OSi identifiers, now associated with unique logainm.ie identifiers, was imported into the logainm.ie database.

With the above steps completed, we were now in a position to add the Irish-language names of place objects in the logainm.ie database to their matching objects in the OSi database on a recurrent basis, thus synchronizing the two datasets.

Geocoding logainm.ie (Stage 2): Manual checking and completion

Fiontar manually checked the output from the process described in Stage 1. In the cases where the computer program was unsucessful or failed in producing a match, a correct match was inserted. The output of Stage 1 was stored on an Excel spreadsheet for processing. A sample from this spreadsheet is shown in Figure 1.

A	B	C	D	E	F	G	H
Result	OSI ID	Osi County	OSI NameEN	OSI TypeEl	logainm.ie ID (equivalent place)	logainm.ie NameEN (equivalent plac	logainm.ie recommended ID
none	63929	Gaillimh	St. MACDARA'S ISLAND	Td	18254	Avery Island	18280
none	IM3136	An Iarmhí	Monilea	CoP	108015	Crooked Wood	1413827
good	242120	Loch Garman	St. IBERIUS	Td	54180	St. Iberius'	
none	152572	Maigh Eo	MUCKLOON or MOOREHALL	Td	34798	Moorehall or Muckloon	
none	UF3731	Uíbh Fhailí	Boheraphuca	CoP	135311	Clareen	1414842
none	CE3711	Ceatharlach	The Butts	CoP	1412350	Coolcullen	?
none	63801	Gaillimh	SHANBALLY	Td	19389	Scalp	19390
none	63802	Gaillimh	SHANBALLY	Td	19389	Scalp	19390
none	80937	Cill Dara	NEWTOWN	Td	25849	Shanacloon	25157
perfect	10016	Ceatharlach	ARDRISTAN	Td	3551	Ardristan	
perfect	10017	Ceatharlach	BAHANA	Td	3610	Bahana	

Figure 1: Sample output from Stage 1

The spreadsheet, as shown in Figure 1, contained the following information:
Column A: Information regarding the certainty of the match: 'perfect', 'good' or 'none'.
Column B: The Ordnance Survey Ireland (OSi) identification number.
Column C: The OSi county in which the place is located.
Column D: The OSi English-language placename.
Column E: The OSi place type.
Column F: The logainm.ie identification number for the place matching the OSi place according to the computer program.
Column G: The logainm.ie English-language placename for the place matching the OSi place according to the computer program.

The process of manual checking involved researching each match in the aforementioned spreadsheet which was marked either 'good' or 'none'. Matches marked 'perfect' were accepted to be correct following a spot check. The logainm.ie identification number for the place which

was deemed to match the OSi place, in light of checking and research, was inserted into Column H. In cases where the computer program produced a correct match Column H was left blank.

To research a suspect match, the OSi English-language placename was searched for in the logainm.ie database. Results in the logainm.ie database were examined and an appropriate match was chosen based on the OSi placename, OSi place type and OSi county and the location of the suspect match provided by the computer program during Stage 1.

Various challenges presented during Stage 2 of the process. Some of these challenges related simply to the quality of the output from Stage 1. Firstly, the automatic address mapping program did not succeed well when there was a significant difference in coordinates between the OSi and logainm.ie databases. Secondly, in cases where there was an absence of any coordinates in the logainm.ie database, as was the case in particular with provinces, counties, electoral divisions, baronies and civil parishes, as well as most townland and population centres in Northern Ireland, the computer program was unsucessful in accurately identifying the nearest place.

This is best illustrated with some examples. During Stage 1, the computer program calculated the townland of *Shanacloon*, Co. Kildare, as a match for the townland *Newtown*, Co. Kildare. The reason for this incorrect match was that the coordinates for *Shanacloon* in logainm.ie were closer geographically to the OSi's coordinates for *Newtown* than were the coordinates for *Newtown* in logainm.ie. To manually complete the matching process, the OSi placename *Newtown* was searched for in the logainm.ie database. This yielded 191 results (i.e. there are 191 places called *Newtown* in logainm.ie), which were then systematically ruled out based on location and type until the correct match was obtained. For example, 176 results were ruled out based on location because they were not in Co. Kildare. Of the 15 results which were in Co. Kildare, 1 was ruled out based on type, as it was an electoral division and not a townland. This left 14 possible matches, but 11 were ruled out as they were not in the same barony and parish as *Shanacloon*. This left 3 possible matches; 2 of these were ruled out because, while they were in the same barony as *Shanacloon*, they were not in the same parish. This left one correct result which was in the same parish as *Shanacloon*. The next example involves an absence of any coordinates in the logainm.ie database for *St Macdara's Island*, Co. Galway. The computer program therefore generated the bogus match *Avery Island*, Co. Galway, to be its match as it inaccurately guessed that it was the nearest place to *St Macdara's Island* geographically.

Other difficulties were a result of there being no match or no apparent match in the logainm.ie database. Cases like these constituted a gap in the logainm.ie dataset. For example, the OSi database contains some the following types of placename that are not found in the logainm.ie database as placename types: county, city, town and borough councils; Gaeltachtaí (Irish-speaking areas) and rural areas. The OSi placename *Boheraphuca*, Co. Offaly, had no match in the logainm.ie database. The computer program generated a bogus match for it of *Clareen*, Co. Offaly. Research revealed that *Boheraphuca* is a very small village in the townland of *Gorteen*, Co. Offaly. It has subsequently been added to the logainm.ie database.

In other cases, subtle, ambiguous discrepancies between the OSi and logainm.ie datasets were present and had to be resolved. Examples of this include differences in place type (e.g. *Ballylaneen*, Co. Waterford, has the placename type 'centre of population' in the OSi database but has the placename type 'townland' in the logainm.ie database), subtle differences in spelling (e.g. *Knockauduff* versus *Knockanduff, Doughill South* versus *Doochill South*), punctuation (e.g. *St Iberius* versus *St Iberius'*, *Sixmilebridge* versus *Six-mile-bridge*), or layout (e.g. *Lurganboy* versus *Lurgan Boy*, *Bigisland* versus *Big Island*).

Inclusion of logainm.ie Irish-language placenames in the National Gazetteer and Townlands Database

Once the validated Irish-language placenames have been matched to their correct geographic location, they will be matched and linked to the National Townlands Database and the National Gazetteer held by Ordnance Survey Ireland. From this point it will be possible to update and publish the first version of the *MapGenie Éire* web mapping service with the official Irish-language placenames. The service will then be available to external organizations, and can be consumed in web map applications, including OSi's own online shop, making it available to a public audience. The *MapGenie Éire* web mapping service will be kept in sync with the logainm.ie database and updated periodically.

Use of MapGenie web service in logainm.ie

Work is underway in Fiontar, DCU, in preparation for the integration of the *MapGenie Éire* web mapping service into logainm.ie as an additional browsing interface to the Placenames Database of Ireland. This work will be completed once *MapGenie Éire* is ready to use. It is hoped that this feature will be available to the public on logainm.ie before the end of 2012.

Additionally, coordinates made available to Fiontar as a result of the synchronization project will be used to improve the current Google mapping interface on logainm.ie.

Future steps

OSi and Fiontar will devise an ongoing update process, thus ensuring that the most current placenames data is continuously available to both organizations and that the placenames on *MapGenie Éire* maps are updated regularly. Discrepancies between the English-language placenames in the OSi and logainm.ie datasets may be resolved in the future to improve both datasets. To enhance *MapGenie Éire*, synchronization will be extended to further categories of placenames such as streets and minor features. Such work would be facilitated by the exchange of hierarchical information.

Conclusion

Despite the success of this project to date, the geocoding work in particular highlighted the challenges in appropriately maintaining a dataset whose key components are the responsibility of separate government agencies. However, this project clearly demonstrates the value of cross-agency collaboration, by maximizing the technology and expertise available in both organizations to update and maintain a key government dataset in order to provide high-quality Irish-language services to the Irish public.

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Managing Challenging Data Capture by Tearing up the Rule Book

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OpenStreetMaps

Abstract. When we think about database management, we usually think about words like 'structure', 'planning', 'rules', etc. A common instinct is to carefully analyze the requirements before any data capture takes place and to try to understand all possible complexity in order that the best data model can be selected. If we are to design a database of placenames, or, more generally, of places and place hierarchies, we discover that the data are complex and the structures highly variable as we move from place to place, with Ireland one of the more complex locations, certainly in European terms.

OpenStreetMap (OSM) is a worldwide open-data project whose mission is to map the planet from scratch using 'volunteered geographic information', most of which is contributed from non-professional mappers. Many regard it as the Wikipedia of maps/geodata. It is interesting to observe how OSM has come to deal with the complexity of place data, since its data model is not a result of careful upfront planning, rather it has evolved slowly to cater for each new challenge as it arises.

In this presentation I hope to explain how and, where possible, why this came to be. I will demonstrate the evolved approaches for handling many of the challenges inherent in placenames, languages and addressing, while attempting to point out the strengths and weaknesses of these approaches.

Keywords: OpenStreetMap; geodata; localization; custom maps; open data

Introduction

This paper addresses the topic of placename management from the perspective of the OpenStreetMap (OSM) collaborative mapping project. OSM practices in this area are interesting because of the decentralized manner in which these practices evolved and because the community involved spans the whole world.

As suggested by the word 'evolved', the practices were not planned upfront to satisfy carefully analyzed system requirements. Rather we will see that, instead of trying to anticipate data management needs in advance, OSM finds solutions to problems as they arise in a *just-in-time* fashion. In order to understand the context it is useful to have a brief introduction to OpenStreetMap.

Figure 1: Irish-language map based on OSM, map data © OpenStreetMap

About OpenStreetMap

OpenStreetMap is a project that "creates and provides free geographic data and mapping to anyone who wants it".[1] Although most easily visualized by a lay observer as an online digital map, the most important aspects of the project are the creation, maintenance, improvement and distribution of a rich set of vector map data with strong support for metadata of theoretically limitless complexity.

OpenStreetMap can be considered a kind of "Wikipedia of digital maps or map data". Though not built on wiki technology, OSM intentionally has many characteristics in common with wikis and/or the Wikipedia project:

- It exists to collaboratively capture, maintain and freely distribute content that would nomally be compiled centrally and sold.
- It allows editing by any member of the public – crowd-sourcing and, specifically for OSM, volunteered geographic information (VGI) (Goodchild 2007:212).
- It uses lay contributors – most OSM mappers are not professionals in the mapping field.
- Edits made by community members are accepted without any requirement for editorial approval. Quality assurance is left to the community.
- A full version history is maintained.

Vector map data

Instead of drawing styled images of maps the project stores the 'vectors', that is, the detailed geometry of the point, line and area features being mapped. This provides for many advanced uses including:

- Generation of maps in any style required;
- Generation of special purpose maps including or emphasizing exactly those features that are of interest. Flexibility in language handling is part of this benefit;
- Route calculation along roads, pathways or other travel corridor (possible because the vector data also captures network topology or 'connectedness').

1 http://wiki.openstreetmap.org/wiki/Main_Page (accessed 29 March 2012) is the OSM documentation homepage from which the quoted phrase is taken.

Figure 2: Public transport custom map, map data © OpenStreetMap

Metadata

In the OpenStreetMap context, meta-data can be considered to be the data complementing the geometric vector data to complete the description of any given map feature. To pick a relevant example, a place mapped in OSM (a city, town, village, etc.) will be represented geographically either by a single point (in OSM terminology a node) or by a bounding area polygon (represented by a closed linear way). To be useful, either representation must be augmented by additional information, in this case, at a minimum the placename and an indication of the type of place it is. In OSM, such additional data are represented by tags. Any data object (a vector as described above) may have any number of tags applied to it. Each tag is a name-value pair. Mappers have absolute freedom to apply tags according to any schema useful to themselves – a freedom that allows them to capture map data that they can use in "creative, productive, or unexpected ways"[2] Despite this freedom, a shared dataset like OSM can only be useful if norms exist for the representation of commonly useful objects like roads, amenities, shops and of course places.

2 http://wiki.openstreetmap.org/wiki/Main_Page (accessed 29 March 2012) is the OSM documentation home page from which the quoted phrase is taken.

Place example

Let us take the example of a small village which will be represented on OpenStreetMap as a single point. This will require an OSM node which, in the absence of any tags, records only a position (latitude and longitude) but cannot be interpreted as representing anything in the real world. Any application of OSM data (for instance, a *rendered* paper or digital map) will simply ignore such a node.

Figure 3: Data view of simple place node,[3] © OpenStreetMap

In order to sufficiently represent our test village we need two tags:

- place=village
- name=Ballydermot

The first tag listed (there is no concept of order in the actual dataset) simply identifies the node as a village rather than a city, town, fuel station, windmill or any other real-world feature that could have been represented as a single point. Other types of place will also use the same tag key of 'place', but with a different tag value. Common options include place=country, place=city, place=town, place=hamlet.

The 'name' tag takes the village name as its value. It is worth noting that, although both tags can be easily understood by a human reader (assuming the reader has a sufficient command of English), the value of the place tag is intended to be *machine-readable* whereas the value of the name tag is not

3 http://www.openstreetmap.org/browse/node/674398223 (accessed 29 March 2012) is the data view page of the OSM place node for Stratford-upon-Avon.

Machine-readable tags typically have the following characteristics:

- English language (standard spelling as used in UK)
- All lowercase letters
- Space character replaced by underscore
- Converged to a finite set of well-supported normalized values through community consensus

Now consider the name tag. Its value cannot readily be normalized. Although some places will share the same name we must expect an unbounded list of possible names. Our drawing rules will need to handle the name – it must, of course, be placed on the map in the right location – but it does not have to interpret its meaning. It may consider the length of the name for hyphenation purposes or to consider line breaks at a space, but as a rule the exact text appearing as the value of the name tag will be reproduced verbatim. This is, therefore, a tag designed to be human-readable, to be used for presentation.

Such tag values will generally:

- Contain the correct mix of upper- and lowercase letters;
- Be non-abbreviated;
- Be expressed in the intended language for presentation (we will explore this aspect further).

Paradox of tagging

Correct (or, more specifically, 'useful') tagging can be seen to be the key to success when capturing geographical data (geodata). Yet even in our superficial example we have identified two apparently conflicting principles:

- You must follow established tagging norms if you expect your data to be recognized by widely-used tools and used correctly.
- Tags are freeform and you are free to use any you wish. You are even free to invent new tags never before used by another mapper.

This is the key to the power of OpenStreetMap. The project name is itself a clue. At one time, mappers were mostly interested in capturing a network of streets and roads. Over time, the same geometrical building blocks came to be used for other types of real-world feature – railway lines, rivers, lakes, even building outlines. The freeform tagging system allowed the first mappers of each new data type to choose a reasonable tag. A reasonable tag in such cases has the following properties:

- Describes its purpose well to other mappers (helps build consensus for the use of the tag);
- Does not breach established consensus for tagging. As an example, if you are the first map per to map a hammer shop, shop=hammer is likely to be a better tag than place=hammer_ shop or highway=hammer_shop;

- Achieves the correct balance between detail and normalization. shop=goods is unlikely to be a useful tag. shop=hammer may be too specific, though, so we might consider shop=tool.

Resolving the paradox – path to usefulness for new tags
We have now considered two tags. Let us contrast them:

place=village is a tag that is widely used by mappers. Consensus exists that this is the correct way to tag a small settlement equivalent to what is called a village in English, even if a different word is used in the area where the settlement is located. Objects in the OSM dataset that are tagged place=village will be interpreted in a useful way by the vast majority of maps and other applications based on OSM. There is therefore no good reason to invent a new tag where place=village would be acceptable.

shop=hammer is a tag that, for the purposes of our example, has never been used before. There is no consensus among mappers about how best to tag a shop specializing in the sale of hammers. It is possible that other mappers have had to consider this same issue and chosen a different tag – perhaps, as mentioned above, a more general one that is not specific to hammers. Before we decide to invent a new tag we must decide whether we really need to, a decision that is not interesting for our purposes in this paper.

A brand new tag like this will be effectively invisible to existing OSM maps and applications and will therefore be ignored. Each application maintains its own list of 'interesting' tags, a list that will vary depending on the purpose of the application. A tourist map of a region is likely to include footpaths, public parks, beaches, etc. A road map for truck drivers may find these features uninteresting and concentrate instead on major roads and the locations of truck stops and low bridges.

All tags were new once and were created because some user of OSM data needed to identify a new kind of geographic feature. We can consider that any new tag must follow a 'path to usefulness' if it is to become a mainstream tag used by many other mappers. At first the tag will essentially be 'private' to its inventor and not used by anybody else. Gradually it may establish relevance for niche uses by a number of other mappers. Over time, if the tag provides benefits for many mappers, then it will become mainstream and many mappers will use it.

Why this is this relevant to placenames

We have now considered enough of the principles of OpenStreetMap tagging to enable us to revisit our first example, in which we created the simplest possible representation of a village:

- place=village
- name=Ballydermot

In the early days of OpenStreetMap, this simple data model was fit for purpose for a number of reasons:

- The existence of only very few contributing mappers meant that it was more important to map a wider area simply than a smaller area in detail.
- The project originated in the UK, more specifically in England. Most placenames could be sufficiently well represented in one language only.
- In a largely incomplete map, address hierarchies and other complex data considerations were beyond the reasonable scope of the project.
- Most importantly: in a *do-ocracy*, mappers map only the things they find useful.

We will see that OpenStreetMap, despite the early data model failing to make provision for many of the more troublesome toponymic problems, did evolve creative and intelligent ways of solving those problems.

How to handle language in placenames

Based on what we have seen of the OSM data model we know that the city of London can be represented: place=city, name=London.

But what about a city in a non-English-speaking country? Again, this is adequately supported: place=city, name=München.

Note that, due to the importance of normalization, we still tag place=city even though city is not the word used in German. The tag is intended to be machine-readable and will be interpreted correctly. However, we can already see the first weakness in the naïve data model that ignored the issue of language diversity. Although we must accept that 'München' is indeed the correct name of the city and although we realize that a German-speaking end-user will expect to see that name on the map, an English speaker knows the city as 'Munich' and would like to see that on his or her map. This creates our first challenge and it is a challenge that can be expressed in two different ways:

- End-users differ in the name by which they know a given place.
- A single place can have different names.

Note that, although our example concerns names in different languages, there are cases where multiple names must be managed even in a single language.

To solve this problem in OSM requires an enhancement to the data model. We have seen that this can be readily achieved through the invention of new tags. As mappers began to require a solution, a set of new tags evolved and became mainstream through consensus. These included:

loc_name	Local name. A name used for the place by locals. May be a nickname.
alt_name	Alternative name
old_name	A name that is no longer used but was in the past
int_name	International name. Can be used in cases where there is a name different to the 'normal' name that is commonly used outside the country concerned for the named place
name:en	English-language name
name:de	German-language name
name:ga	Irish-language name
name:xx	Name in language having code xx (based on ISO_639, three-letter versions also permitted)[4]
alt_name:ga	Alternative Irish-Language name

Table 1: Extended name tags to support more than one name per place[5]

Already this can be seen to be a lot more scalable. In using OSM data to make maps or other applications we can support a number of uses that would not be possible using the naïve data model. Some examples of relevance to Ireland:

- An online or printed map favouring Irish-language names[6]
- An online map with switchable languages for name labels
- A satellite navigation replacement map with Irish-language placenames
- A tourist map of Dublin including the nicknames of famous monuments (many Dublin monuments have popular nicknames)
- A map of Ireland showing the historical names of places or streets that were renamed after independence.

Deficiencies in the solution

No solution is perfect. Let us divide our treatment of the deficiencies of the evolved data model into two categories:

4 http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=22109 (accessed 29 March 2012) is the online reference for ISO_639.

5 http://wiki.openstreetmap.org/wiki/Name (accessed 29 March 2012) is the OSM documentation page for the name tag.

6 http://maps.openstreetmap.ie/?zoom=11&lat=53.35379&lon=-6.26825&layers=B000TFFFFFFFFFFF (accessed 29 March 2012) is a sample map offering Irish-language (and other) labels.

Actual drawbacks of the tagging scheme

These concern the non-language-related name tags and apply equally to all of them. The first problem is most evident for old_name: many places have had many different names in the past. Likewise there could be several local names or alternative names. The challenge of multiple values has a solution, though not an elegant one – by OSM convention a semicolon (;) is recognized as a separator for multiple values. However, this still does not provide sufficient context. If a city had three different historical names, during which years did each apply? This problem does not apply to the language-based name tags, but these are subject to a lesser drawback:

Drawbacks due to poor usage

The issues addressed in this section arise due to culture and habits within the mapping community. As noted in the introduction, the most visible manifestation of OpenStreetMap is not the raw database but the online map providing a visualization of that database. Although maps and applications of all kinds can be generated from OSM data, the reference map sets many mappers' expectations of what is possible.

The language-specific name tags, if correctly populated, provide enough data to provide each user intelligently with the most helpful names. In the ideal case, the user has identified a list of acceptable languages in order of preference, a feature supported by all modern web browsers.[7]

The problem is that many map-based tools do not perform language negotiation at all. The first naming tag we saw used was the overly-simple 'name' tag. This tag is still widely used and in many countries, particularly countries with only one spoken language, it is the only tag commonly used to tag names. In countries with a dominant spoken language but where names exist in other languages – Ireland being a good example – it is common that the simple name tag will contain the name in the dominant spoken language with a name:xx tag used (if at all) for the less used language. In the case of Ireland, though, it cannot be relied upon that this tag will always contain the English name. Gaeltacht areas may reverse the practice, meaning that a solution to the problem would require very smart heuristics.

In fact this can be termed a data problem – adding the missing name:xx tag will remove any ambiguity. Although this will be a large exercise it will be necessary, as the simple name tag has much greater drawbacks than those already discussed. Its documented purpose is to hold the 'common name', which should usually be the name used locally to the place itself. To return to an earlier example, the recorded common name for Munich is 'München', which most non-German speakers can deal with. However, some countries have bigger issues:

- Belgium has three official languages. In most areas, a single language will prevail on official signs and this is stored as the common name in OSM. Brussels, however, is officially bilingual and this is reflected in signs. Belgian OSM mappers have chosen to include both language versions in the common name tag, something that makes the reference map much less readable.

7 http://tools.ietf.org/html/rfc2616#section-14.4 (accessed 29 March 2012) is a technical description of how HTTP content negotiation handles language.

- Different alphabets and writing systems are in use throughout the world. Many map users can read only one system and the common name tag simply cannot please them all. Depending on location, common names may be recorded only using the local writing system, only using the Roman alphabet or including both.
- Some names are the subject of controversy. This merits its own section.

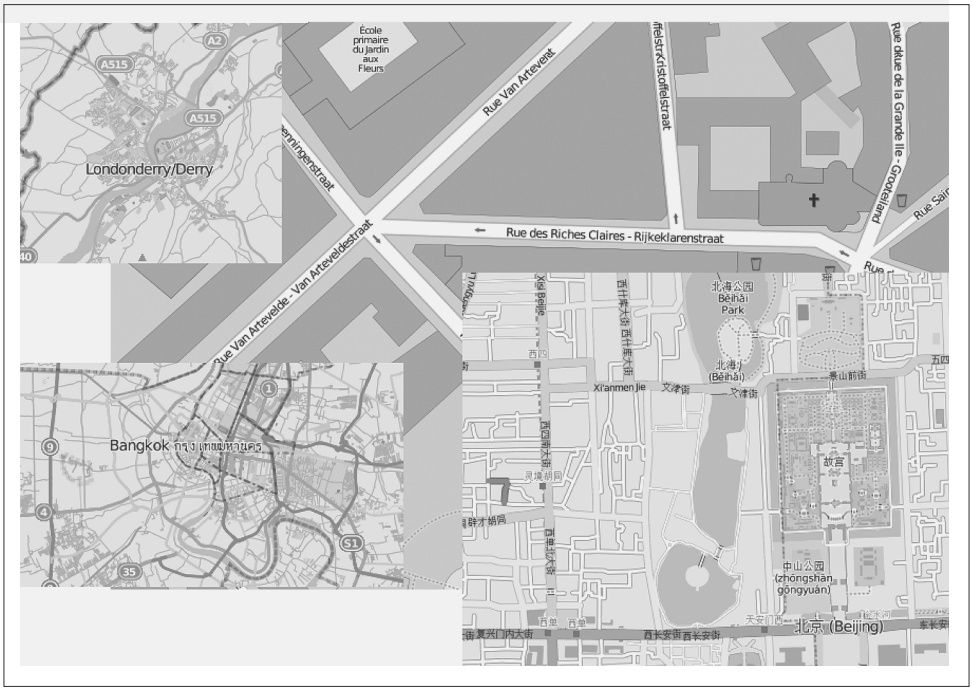

Figure 4: Problematic display situations, © OpenStreetMap

Controversial situations

We have identified the principle that different users of map data have different placename expectations or preferences. So far, language has been the most common and precise indicator. Based on user preference, where known, map content can, particularly in the digital domain, be effectively presented in the user's preferred language.

However, differences in culture, background or political opinion can also lead to different people preferring different names for the same place, even within the same language. Also, some places have a history of different spellings (for the same pronounced name) where there is no clear 'correct' choice. Some examples:

- Derry, Londonderry (Northern Ireland)
- Enfield, Innfield (County Meath, Ireland)
- Cullahill, Cullohill (County Laois, Ireland)

Although the OSM data model will allow all such names to be captured, it still requires that one name per language be considered definitive. Furthermore, the non-language preferences that might, for instance, help choose between 'Derry' and 'Londonderry' for a particular user are difficult to access. In any case, the data model does not provide sufficient context to act on such a preference.

Differences in world view

In some parts of the world, especially areas that were recently or are still the subject of a dispute, places may have different and independently-derived names chosen by the respective parties in the dispute.

This issue first became prominent in OpenStreetMap in what was also the first OSM edit war.[8] The disagreement concerned whether the common names for places in Turkish-controlled northern Cyprus should be the Greek or Turkish versions. This is a further reason why the common name tag is unsatisfactory, but the case demonstrates a further complication in the use of the language-specific name tags: even if some speakers of a particular language use a certain name for a given place, this name may be rejected by others.

Conclusion

Despite failure to make early provision for the full complexity of place-naming, OpenStreetMap established effective data management norms fit for handling almost all everyday situations around the world. It can be argued that ignoring the issues until they arose in the real world allowed for a better solution than might otherwise have been chosen. A necessary precondition for such just-in-time decision-making is the freeform tagging system used by the project.

Some drawbacks still remain when attempting to use the data. These are largely a function of places whose name data is entered in insufficient detail (particularly in the language-specific tags) and of names that need to be selected based on non-language criteria.

In the future, as data users gain the ability to be more specific about name selection criteria, it is very likely that the OSM tagging scheme will be extended where necessary to be better able to deliver the correct name for each identifiable context.

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8 http://wiki.openstreetmap.org/wiki/Disputes#Background (accessed 29th March 2012) is an OSM documentation page mentioning the Northern Cyprus edit war.

Toponymy and Google

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Abstract.[1] As mapping has moved from paper into the digital world, the idea that the world can be mapped in its entirety now seems possible. Maps will always, to some degree, reveal the preferences of the mapmakers. As a mapmaker, Google endeavours to create useful and beautiful maps that will provide the best user experience.

Google aims for its maps to describe ground-truth. We look at both official language and *de facto* languages, i.e. what would be on the road signs in a given location. We work with organizations such as the United Nations Group of Experts on Geographical Names (UNGEGN) and the US Board on Geographic Names (USGS), as well as national authorities, to stay up to date on authoritative data, transliteration changes, endonyms, exonyms and language legislation. We also look to our users for local expertise in mapping data and to give us feedback.

In my presentation, I'll discuss Google's approach to mapping certain areas of the world and how we continually work to improve our maps.

1 Abstract only. Paper unavailable.

Biographies of contributors

Beathaisnéisí na n-údar

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Maria Byrne is a GIS and Business Consultant working for Ordnance Survey Ireland (OSi), the national mapping agency of Ireland. She graduated from NUI Maynooth with a BA in Geography and Music, and MSc in GIS (Geographical Information Systems) and Remote Sensing. While working in OSi, she subsequently completed a part-time postgraduate diploma in IT in DCU. Maria is a GIS professional specializing in web mapping technologies, and currently works in the IT department of OSi managing and developing OSi's web mapping service MapGenie, which provides online immediate access to OSi's mapping database. She also sits on the executive committee of IRLOGI, the Irish Organisation for Geographic Information. IRLOGI is the primary forum for the GIS industry in Ireland, and Maria currently holds the position of Treasurer.

Côté Jean-René
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Jean-René Côté has been a commissioner of the Commission de toponymie du Québec since 1994. He is a Doctor of Natural Sciences of the Université de Montpellier, France. Before his retirement he held positions as Vice-President, Bureau d'audiences publiques en environnement, Province of Québec, Director of the research division at the Québec Society for the Treatment of Used Waters, Chairman and professor at the department of Biological Sciences, Université du Québec in Montréal. He was also a member of the Comité de toponymie of the city of Boucherville, Québec and a member of the board of directors of the Société de généalogie canadienne-française. He is the author of many historical and international scientific publications.

Gwyn Jones
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Gwyn Jones spent his formative years in Caernarfon in north-west Wales, which, at that time (as indeed at present), had the highest percentage of Welsh speakers of any town in Wales. He is a native Welsh speaker, and received his secondary education in the local grammar school. He was educated further at the University of Nottingham, SOAS, and, latterly, at the Open University. He holds first degrees in Mathematics and Statistics, as well as in Linguistics and the Classics, and is about to undertake postgraduate study in Buddhist Studies. After 18 years spent as a career civil servant, working in various public policy areas at the Welsh Office in Cardiff, he transferred to the advisory Welsh Language Board in 1991. When the statutory Board was formed in December 1993, as a result of the Welsh Language Act 1993, he transferred formally to that organization, and has been based there ever since. Until recently, he was Director of Policy and Terminology at the Board. He is currently Director of Change, charged with ensuring a smooth transition as the Board is disbanded and the Office of the Welsh Language Commissioner for Welsh is established. His abiding interest at the Board is onomastics, and he has been a member of the Board's Standardisation of Place-names Committee since 2001. He recently presented two papers on the standardization of placenames in Wales: in March 2010 to the SNSBI in Carmarthen, and in June 2010 to the 'Trends in Toponomy' conference at the University of Edinburgh.

Helen Kerfoot
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Helen Kerfoot is the elected Chair of the United Nations Group of Experts (UNGEGN), 2002–2012, and is an Emeritus Scientist at Natural Resources Canada. Trained as a geographer at the University of London, England, Ms Kerfoot had a career as a schoolteacher and a research geomorphologist in Arctic Canada before joining the mapping program at Natural Resources Canada. From 1987 to 1998 she headed the Secretariat for Canada's national geographical names authority, and as a manager was responsible for the national toponymic database being made available on the internet, a geographical names website being developed and various publications on Canadian toponymy being completed. As UNGEGN Chair, Ms Kerfoot has promoted the significance of the geographical names standardization, both for spatial data infrastructures and for preservation of cultural heritage. She has led the creation of the UNGEGN website, publication of manuals and brochures, development of a world names database, and has encouraged UN support for UNGEGN training courses and a special UNGEGN emphasis on efforts in Africa. Ms Kerfoot has been a Governor of the Royal Canadian Geographical Society, President of the Canadian Society for the Study of Names and Chair of the Ontario Geographic Names Board, and is the author of a variety of toponymic articles.

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Dr Jacob King works for Ainmean-Àite na h-Alba; this is a national advisory partnership to research and establish the correct and appropriate Gaelic forms of placenames for maps, signage and general use. His current role is to undertake the academic research to fulfil these aims; he is also partially responsible for developing and maintaining the online database. In 2008 he completed a PhD entitled *Analytical Tools for Toponymy: Their Application to Scottish Hydronymy*. This used computational methods to discover underlying patterns in toponymy, focussing on Scottish river names. He is a committee member of the Scottish Place-Name Society and on the panel of reviewers for the *Journal of Scottish Name Studies* as well as the author of a number of articles. As part of his work, he recently collaborated on 'Gaelic in the Landscape: Place-names in Islay and Jura' which was compiled using information gathered from local informants, published by Scottish Natural Heritage.

Dónall Mac Giolla Easpaig
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Dónall Mac Giolla Easpaig was born in Inishowen, County Donegal, in 1948. He was educated at St Columb's College, Derry, and University College, Dublin, from where he graduated with a BA degree in Celtic Studies and MA in Early and Medieval Irish. He has worked in the Placenames Branch since 1972, formerly of the Ordnance Survey of Ireland, and now of the Department of Arts, Heritage and the Gaeltacht. He has been Chief Placenames Officer and Secretary of An Coimisiún Logainmneacha (The Placenames Commission) since 1998. He has been the Irish delegate to the United Nations Conferences on Geographical Names and member of the Celtic Division of the United Nations Group of Experts on Geographical Names (UNGEGN) since 1998, where he was co-Rapporteur of UNGEGN from 2002 to 2007, and Convenor of its Working Group of Pronunciation from 2002 to 2012. He is the current president of the Society for Name Studies in Britain and Ireland (SNSBI). He has published extensively on Irish placenames.

Dermot McNally
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Dermot McNally is an internet industry veteran and a lover of maps. With a background in programming and system administration, his career focus has been the creation of interactive web applications. He is co-founder and former CTO of the online tour operator Directski.com.

Since 2007 he has been an active contributor to the open-data OpenStreetMap project (OSM), often referred to as the Wikipedia of maps. Since late 2011 he has been a board member of the OpenStreetMap Foundation (OSMF), a UK-based non-profit organization created to support the project. Part of his work on OSM has involved finding suitable ways to capture the more challenging aspects of Irish places and their names.

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Michal Boleslav Měchura is a language technologist and information architect based in Dublin, Ireland. He works for Fiontar, Dublin City University on projects such as the Placenames Database of Ireland (logainm.ie) and the Irish National Terminology Database (focal.ie). He had previously worked for Microsoft Ireland as a software localization engineer.

Peadar Morgan
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Peadar Morgan is currently Research and Corpus Planning Manager for Bòrd na Gàidhlig, after joining as Language Planning Manager. The Bòrd was formally established by legislation in 2005 to increase the knowledge and use of Scots Gaelic, and increase access to the language and its culture. He joined the Bòrd staff from being director of Clì Gàidhlig, a body working for those such as himself and his wife who came to the language from a non-Gaelic upbringing. In a reversal of language shift, however, their family of three in the Black Isle, north of Inverness, are being raised and schooled as native-speakers. Peadar has submitted a part-time PhD thesis on ethnonyms in the placenames of Scotland and the English border counties, and was for several years on the committee of the Scottish Place-Name Society. He has been involved in the multi-agency partnership Ainmean-Àite na h-Alba (AÀA) and its predecessor body since the start of coordinated Gaelic toponymic planning in 2000. Commencing with clarification of orthographic issues on OS maps, at Peadar's instigation this role moved into one of building a fully researched online national gazetteer and advice service for the growing area of dual-language signing and naming. AÀA employs full-time a researcher and a coordinator, with Peadar representing the Bòrd and acting as peer reviewer. AÀA is expected to be a constituent part of the forthcoming Gaelic language academy, in the development of which Peadar is involved through Bòrd na Gàidhlig.

Leif Nilsson
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Leif Nilsson was born in 1948. He studied studied English, Irish, linguistics, phonetics and Swedish with a specialization in onomastics at Uppsala University, receiving a BA in 1973. He was head of the name section at the National Land Survey from 1990 to 1995. He has been a placename consultant at the Swedish Institute for Language and Folklore in Uppsala since 1996. He is a member of the Swedish Placename Advisory Board, a member of the UNGEGN Norden Division and of the UNGEGN Working Group on Pronunciation. His main field of research is the standardization of Swedish placenames. He is also currently engaged in a project on nicknames of Swedish sports idols.

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Dr Brian Ó Raghallaigh is a lecturer in Fiontar, Dublin City University and is currently involved in the technical management and development of the ainm.ie, focal.ie and logainm.ie projects. He previously worked on the Irish synthesis project abair.ie at Trinity College Dublin. He has a background in computer science, linguistics and Irish, and completed his PhD thesis on multidialect phonetisation for Irish, also at Trinity College Dublin.

Sirkka Paikkala
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Dr Sirkka Paikka has an MA and a PhD from the University of Helsinki. She has been the Senior Researcher (Head of Name Planning and Guidance) at the Research Institute for the Languages of Finland since 1996 and an adjunct Professor in onomastics at the University of Helsinki and the University of Turku since 2005. Her main areas of research are Finnish placenames and personal names. She was a Name Researcher and Name Planner (street names) in the City of Espoo, Town Planning Department from 1980 to 1995 and was involved in the collecting of Finnish placenames from 1976 to 1996. She has been a member of the United Nations Group of Experts of Geographical names since 1996 and was Chair of the Norden Division in UNGEGN from 2002 to 2007. She has also been a member of the (Personal) Name Board in the Ministry of Justice since 2000 and a member of the working group on Scandinavian anthroponymic terminology (NORNA) since 2001. She was a member of the Name Board in the City of Helsinki from 1996 to 2004 (street names). She was the chief editor and one of the authors of the *Suomalainen paikannimikirja [Finnish Placename Dictionary*], which was published in 2007. She was also one of the authors of *Sukunimet* [*Finnish Surnames*; with Pirjo Mikkonen] published in 1984 and revised in 1988 and in 1998. She is also the author of *Se tavallinen Virtanen. Suomalaisen sukunimikäytännön modernisoituminen 1850–1920* (2004) *[The ordinary Virtanen. The modernization of the Finnish surname practices from the 1850s to 1921]*. She is currently editing a book of Finnish exonyms.

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Crystal Sholts is a Geopolitical Program Manager in Engineering at Google. Since 2005, she has advised product teams. Her primary work involves Google Maps, Google Earth and Map Maker. She specializes in the depiction of geopolitically and culturally complex areas: territorial and naming disputes and multilingual regions. Crystal was Google's first observer to the United Nations Group of Experts on Geographical Names (UNGEGN) conference in 2007 and has been regularly attending conferences since. She also maintains Google's relationships with other organizations such as the US Advisory Committee on Antarctic Names (ACAN), the Polar Geospatial Center (PGC), the Scientific Committee on Antarctic Research (SCAR) and the US Office of the Geographer.

Prior to Google, Crystal interned at the US Embassies in Moldova and Tanzania, the US Senate and the Carnegie Moscow Centre. She received an MSc from the London School of Economics in Russian and Post-Soviet Studies and received her BA with honours from Stanford University in International Relations.

The following is a poem by the bardic poet and scholar Tadhg Dall Ó hUiginn (1550–91), text and translation taken from the book *A bhfuil aguinn dár chum Tadhg Dall Ó hUiginn (1550–1591) idir mholadh agus marbhnadh, aoir agus ábhacht, iomarbháigh agus iomchasaoid [The bardic poems of Tadhg Dall Ó hUiginn]* 1926 by Tadhg Dall Ó hUiginn, ed. Eleanor Knott, Irish Texts Society.

BRÁTHAIR BRÉIGE

1.
Ca talamh duit, a bhráthair ?
dona grasuibh bheith umhal;
innis sgéala gan aincheas,
nách beam i n-ainbhfeas umad.

2.
An cuid dod riaghai1 chrábhaidh?
léara, a bhráthair, is innis –
créad tug do bhróga fallán,
is h'atán do bheith brisde?

3.
D'éis ar siubhlais do roide,
a bhráthair choisflich chalma,
iongnadh leam gloine t'asán,
is h'atán lán do salchar.

4.
An raibhe id riaghail chrábhaidh,
a bhráthair ó chrích Connacht,
cruas do bhróg agus t'asán,
is h'atán do bheith robhog?

5.
Dar leam ní faicim éanlocht
ar t'éadach fada fallán,
a bhráthair chroidhe cheóilbhinn,
acht nách fiú feóirling h'atán.

6.
Idir chóta agus chaipín,
idir aibíd is asán,
tar gach éanchuid dod chuladh
ní maith do cumadh h'atán.

7.
Ní dot aibíd atámuid,
a bhráthair as díol masán,
féach id dhiaidh is féach romhad,
mar tá brollach ar hatán.

8.
Th'atán, a mhacaoimh léighinn,
gi bé i nÉirinn ór gadadh,
ní hatán duine dhílis
bhíos dá sírreic i bhfalach.

9.
Ní hé a chuma go lochtach,
ní hé olcus a dhatha,
tug gan a dhíol san Chabhán,
acht é 'na atán ghada.

10.
Beith 'ga bhélreic, a bhráthair,
is tríd tánaig do mhilleadh;
baile so i ndéantar nathán:
mairg tug hatán go Sligeach.

11.
Fulang gada do bhráthair
ní do ghnáthaibh an Iarla;
dá seóltar tú 'na dhathán
biaidh an t-atán go riabhach.

12.
Maith do léine agus h'ionar,
deas do siobhal ar chlachán,
's is áluinn fós do mhatal,
's is olc ghabhus tú h'atán.

13.
Créad do-bheir th'aibíd goirid,
's th'falluing go noige do sálaibh,
agus h'atán fliuch fada,
ca talamh duit, a bhráthair?

A FALSE FRIAR

1.
Of what land art thou,
friar? humility is one of the graces:
give us plain information,
that we may not be in ignorance about thee.
2.
Is it a part of thy Rule?
explain, friar, and relate, —
why are thy shoes sound
and thy hat tattered ?
3.
Considering till the swamp
thou hast travelled, thou valiant, wet-footed friar,
I marvel at the cleanness of thy hose
whilst thy hat is covered with dirt.
4.
Was it in thy Rule,
thou friar from Connacht,
that thy shoes and hose should be stout
and thy hat very frail?
5.
Methinks I see not a single fault
in thy long and correct costume,
beloved, melodious friar,
save that thy hat is not worth a farthing.
6.
Including coat and cap,
habit and hose,
more than any other article of thy dress
has thy hat been ill-fashioned.
7.
I make no complaint of thy habit,
thou contemptible friar;
look behind thee and before,
for there is a rent in thy hat.
8.
Thy hat, student,
from whomsoever in Ireland it has been stolen,
that is not the hat of an honest man
which is ever being secretly offered for sale.
9.
It is not its faulty fashioning,
it is not the badness of its colour,
prevented it from being sold in Cavan,
but the fact that it is a stolen hat.
10.
Uttering it for sale, friar,
that is what has brought about thy ruin;
here is a proverb-made,
'alas for him who brought a hat to Sligo.'
11.
It is not the Earl's practice
to suffer a friar to steal;
if thou art sent in [...](?)
the hat will be striped.
12.
Good are thy shirt and thy vest,
neat is thy step on the causeway,
fine moreover is thy mantle,
but badly doth thy hat become thee.
13.
Why is thy habit short,
and thy cloak down to thy heels,
and thy hat damp and high (or broad?),
of what land art thou, friar?