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# Ancient Lakes in the Former Finno-Ugrian Territories of Central Russia: An Experimental Onomastic-Palaeogeographical Study

During the past decades and even centuries a great number of writings and studies have been published concerning the linguistic substratum, and especially the toponymics of the former Finno-Ugrian territories in Central Russia. These studies mainly concentrate on the linguistic heritage of the Merya people, who widely inhabited the territory of Central Russia prior to the Slavonic colonisation.

The territory of the Merya people, defined mainly according to archaeological data, comprised, besides almost the entire present Jaroslavl' Province, a considerable part of the Kostroma, Ivanovo and Vladimir Provinces, including small territories in both the Moscow and Tver' Provinces (see Map on p. 49). The northern boundary of the Merya territory has not yet been archaeologically defined (Leont'ev 1996: 26, figure 1, 269, 292). Certain place name elements, common to the whole Merya territory, suggest that the Merya settlement extended as far as the southern parts of the present Vologda Province.

It is also clear that there were other Finno-Ugrian tribes in the territory of Central Russia, parallel to the Merya – the Muroma and Meščera, maybe also the Čud' – and even before them. Some of these probably remained where they were until the formation of the Merya ethnic-cultural unity, which is regarded as having been established in the 6$^{th}$ – 7$^{th}$ centuries (see Leont'ev 1996: 293–294). The D'jakovo Culture of the early Iron Age (see Map on p. 49) has been regarded as a Finno-Ugrian speaking area – although with a Baltic component especially in the southern parts of the territory (see Rozenfel'dt 1974: 189–197, figure 48; 1982: 171, figure 39, 176–177; Rjabinin 1997: 150, figure 40, 151–153).

It is very obvious that a certain part (and maybe not such a small part) of the substratum toponymics of these territories is related to earlier, more archaic,

forms of Finno-Ugrian origin than Merya. Sedov (1974: 24–25), for example, traces the oldest Finno-Ugrian hydronym layers of Central Russia to the period of the D'jakovo Culture and to the culture of the Volosovo tribes, who started to settle in these territories in the middle of the 2nd millennium BC. However, even those toponyms that were related to the place name layers of sub-substratum origin must have, in most cases, passed through a period of Merya (or other contemporary Finno-Ugrian) adaptation.

At this stage of the study the Merya language forms seem to have more common features with Finnic languages than previously thought. Thus, one of the main indicators of Merya toponyms which I have distinguished, the river name suffix -(*V*)*xta,* -(*V*)*gda*, has clearly developed from the more archaic -(*V*)*ksa,* -(*V*)*kša*. This change, concentrated in the Merya lands as its centre, seems to be close to some analogical changes in the Finnic languages: compare Pre-Finnic **lakte* 'bay': Finnish *lahti* (archaic *laksi*) 'id.', Karelian *laksi,* Olonetsian *lahti* 'id.', Estonian, Lude, Veps *laht* 'id.' (see SSA 2: 36), for example.[1] As expected, there is a lot of similarity with the Volgaic languages, Mari and Mordvin, as well. In those place name layers regarded as Pre-Merya, there seems to be a similarity with some of the northern Finno-Ugrian languages. These comprehensive issues concerning the status of Merya within the Finno-Ugrian language family will be discussed in another connection.

In the background to this paper is a discussion concerning certain Merya questions which appeared in the journal *Voprosy jazykoznanija* (Moscow) (see especially Matveev 1996; 1998; Ahlqvist 1997; 2000) and focused on place name elements with the meaning 'lake' in the substratum toponymics of the Merya territory and of Central Russia as a whole (see Matveev 2001). The main problem turned out to be whether or not there is, in the territory of Central Russia, not only the "Merya" place name element *Jaxr*(*V*)-; -(*V*)*xra*, -(*V*)*xro* with the meaning 'lake', but also another basic element, -*er*(*V*), -*or*(*V*), forming lake names of substratum origin.

The discussion had reached a stage in which the traditional methods of the onomastical sciences, such as comparisons of place names of other territories and with living language material, even if this is combined with field investigations and complementary archival studies, are no longer sufficient for solving these fundamental questions. Thus the fact that it is impossible to verify these arguments through meaningless words alone has led me to seek more concrete and unambiguous means for establishing the correct answers to these questions, in order to present grounds for the nomination of toponyms in those cases in

[1]Also Tapani Salminen (personal communication).

which this is possible. So the principle of verifying these opinions through an experimental onomastic-palaeogeographical study of presupposed ancient lakes in the former Finno-Ugrian territories in Central Russia was born.

## The lakes and their names in former Finno-Ugrian territories of Central Russia

The territory of Central Russia is finely meshed with rivers: within the Jaroslavl' Volga Basin, for example, there are about 2330 rivers and streams (Roxmistrov 1969: 78), but in the same area there are only about 80 lakes worth noticing (Fortunatov & Moskovskij 1970: 3). In the Moscow Province (Government), 2025 rivers and some hundreds of lakes have been counted (see Pospelov 1999: 72, 89). Most of the present lakes in this region are reaching the end of their existence (Bronnikova 2005: 1).

This is the situation looked at from the present-day point of view. As far as the past is concerned, however, the whole area studied was repeatedly covered by the continental ice caps of the principal stages of Pleistocene glaciation (400,000–10,000 years ago), except during the last stage (Weichsel-Valdai-Zyrianka about 100,000–10,000 years ago), suggesting the existence of ancient extensive lake basins which were later drained by river nets and which then broke up into smaller ones and partly turned into mires.[2] They often function as the springheads of rivers and streams (see Kolbovskij 1993: 45).

The climate variations of the past centuries and millennia, as well as the changes induced by man during the last decades (reclamation of the mires or building of very large-scale reservoirs in the central parts of Russia, such as the Rybinsk reservoir beside the River Volga at the boundaries of the provinces of Jaroslavl', Vologda and Tver') could not have been without an influence on the hydrography of this territory. During our field work in Central Russia people kept on assuring us that even within their memory the local rivers and mires had earlier been much more watery with considerable spring flooding. The disappearance of the lakes can already be discerned in the place names of Russian origin. There is still a site called *Belozerovo* ('white lake [village]') in the Vladimir Province and a village *Belozerovo* in the Jaroslavl' Province, neither of which have water in their surroundings, as seen on the map, except for some mires in the vicinity of the latter (see AVO: 30; AJO: 74).

[2] Markku Moisanen and M.A. Bronnikova (personal communication).

It is noticeable that the physiogeographical circumstances differ even in areas neighbouring the Jaroslavl' Province, Vladimir and Ivanovo. Within the flooded meadows of the Oka river system and its tributaries hundreds of lakes are still to be found that have mostly been formed from former riverbeds.

During the field work in Central Russia quite a large number of places have been found that could have been the site of lakes in the past.[3] Some of these mires or low meadows, for example, still have a name of Finno-Ugrian origin that presumably could point to a former lake name. In these cases mentioned above there is a place name element that can be defined as corresponding to the Finno-Volgaic noun **järwä* 'lake': compare Finnish, Karelian *järvi* 'lake', Estonian *järv*, (dialectal) *järi*, *jerv* 'id.', Veps *järv* 'id.' etc. (see UEW II: 633; SSA 1: 259, and below).

It has been acknowledged by common consent that in the Merya territory lakes with Finno-Ugrian names use to appear in the form *Jaxr*(*V*)- (place name root or adjunct) or its equivalent -(*V*)*xra*, -(*V*)*xro* (basic element or suffix). There are four rivers called *Jáxroma* ('lake [river]') in the Merya territory or close to it: in the north of the Moscow Province (where there is also a town of the same name), in the Jaroslavl' Province (also occurring in metathesis forms such as *Jáxarma*), and in the Vladimir and the Tver' Provinces, all having a connection to a lake (whether nowadays or in the past). Among other place names with this root are a number of settlement names also: for example the village *Jáxrobol* on the shore of the lake *Jáxrobol'skoe ózero* (a secondary derivation) in the Jaroslavl' Volga area, generally etymologised from 'lake village', bearing the basic element -*bol*(*V*), -*bal*(*V*) that forms settlement names of substratum origin.[4] It may be of significance that among the lakes in the Jaroslavl' Province Lake *Jaxrobol'skoe* is third in size (328 ha), while the two largest

[3] I have had occasion to organise expeditions to the territory of Central Russia since 1989. In this paper all the toponymical material we gathered during the field work has been separated from the material of the written sources used here by marking the stress on the toponyms. (Written sources do not usually have stress indicated: exeptionally the stress is marked in the materials below of Moroxin 1997 and in one case that of Smolickaja 1976 and WRG.)

[4] See, for example, Vasmer (1935 [1971]: 416–418), Popov (1948: 223–224; 1965: 118–119; 1974: 18 ff.), Sedov (1974: 30–32), Vostrikov (1980: 72, 74), Ageeva (1985: 115), Tkačenko (1985: 53 ff.), Matveev (1996: 5–7, 9 ff.; 1998: 91 ff; 2001: 34 ff.), Pospelov (1999: 83) and Šilov (2001: 23, 26). In spite of the fact that the element -*bol*(*V*), -*bal*(*V*) has been mostly associated with the Merya language, its distribution is far too wide to be only of Merya origin, and its roots could turn out to be from Pre-Merya substratum (Ahlqvist 1997: 27–30; 2000: 18 ff.).

lakes, Nèro and Pleščeevo (see below), are in a class of their own, both being bigger than 5000 ha (see Fortunatov & Moskovskij 1970: 114, 170).

This same element in the form *Jagr*(*V*)- is to be encountered in Central Russia. It would seem that also the basic element -(*V*)*gra*, -(*V*)*gro* is occasionally found in the region researched (see below *Semigradovo*). Phonetically the variation *x* ~ *g* in the elements *Jaxr*(*V*)- ~ *Jagr*(*V*)-; -(*V*)*xra*, -(*V*)*xro* ~ -(*V*)*gra*, -(*V*)*gro* is analogical, with the river name suffix of the Merya lands having a corresponding double identity: -(*V*)*xta*, -(*V*)*gda*. Thus, a tributary of the Volga named *Jaxra* in the vicinity of Nižnij Novgorod has a parallel in the former lake name *Jagra* (*Jagorbskoe ozero*) that is now obviously the mire called *Jagorbskoe*, from which the River *Jágorba* (< **Jagorma*? – metathesis from **Jagroma*, parallel to *Jaxroma*) in the north-west of the Jaroslavl' Province flows.[5]

I suppose that among many other variants of this element a simplified root exists, *Xr*(*V*)-, *Kr*(*V*)-, *Gr*(*V*)-: compare, for example, the name of the River *Jaxren* in the Vladimir Government in its supposed genitive case with the name of the former parish of *Jagrénevo* near Pereslavl'-Zalesskij with its variant of the name *Grenevo*, and the village *Jagrenevo* in the eastern part of the Tver' Province, in which the connection of both with lakes is clearly apparent.[6]

Outside the known Merya territory in the eastern parts of the Vladimir Province and in the southern corner of the Ivanovo Province, especially along the lower course of the Oka and its tributary the Kljaz'ma, there is a remarkable concentration of relatively small lakes, mostly formed from former river beds, bearing names of Finno-Ugrian origin, usually ending in the basic element -(*V*)*xra*, -(*V*)*xro*. These lakes have such names as *Kívoxro* (with variants *Kívoxoro*, *Kívoxra*, *Kívexoro* etc.), *Kóčexoro* (*Kóčxarovo*), *Lámaxoro* (*Lámxara*, *Lámxaro*, *Lámxarovo* etc.), *Péčexoro* (*Péčxoro*, *Péčxora*, *Péčxaro*), *Sízoxoro*, *Vóexra* (*Vóixro*).[7]

Many variants of the basic element -(*V*)*xra*, -(*V*)*xro* can also be distinguished. One of them is the metathesical *-xar*, *-xaŕ*, *-xor*: compare variants of the lake name *Ponexra* ~ *Pónoxaŕ*, *Pónxaŕ*, *Ponyxaŕ* etc. in the Ivanovo Province. In the

[5] See, for example, WRG (V: 392), Vasmer (1935 [1971]: 416), Popov (1948: 224; 1965: 118–199; 1974: 18–19), Mägiste (1966: 119), Nikonov (1966: 494–495), Ageeva (1985: 115) and Ahlqvist (1997: 29); compare also Matveev (1978: 5; 1996: 10, 12; 2001: 35 ff.).

[6] See AJO (115), ATO (61), Smirnov (1911: 222), Tkačenko (1985: 96) and Ahlqvist (1997: 29; 2000: 24–25); compare Matveev (2001: 35–38).

[7] See also Popov (1948: 222–223), Smolickaja (1973: 246–247; 1974: 59, 65–67), Sedov (1974: 30–31) and Matveev (2001: 40 ff.). It can be seen that some of these lake names of substratum origin tend to add a Russian suffix.

farthermost corner of the Vladimir Province such lake names as *Káčxar* (*Káčxor*), *Néčxar*, *Péčxar* (*Péčxor*), *Účxar* (*Účxor*), *Víčxor*, *Júhor* are to be found. For the local name of the lake *Sánxaŕ* (*Sánxar*, *Sánxara*, *Sánxry*), we have recorded a variant with a translated basic element – *Sánskoe ózero.*

The etymology of the roots of some of these limnonyms in the Kljaz'ma water system is quite transparent. The place name root *Kiv*(*V*)- of the lake name *Kívoxro* is to be compared with Finno-Ugrian stem **kiwe* 'stone': cf. Finnish, Karelian, Veps, Estonian *kivi* 'id.', Mordvin (Erzya) *kev*, *käv*, (Moksha) *kev* 'id.' (see UEW I: 163–164; SSA 1: 378). The root *Peč*(*V*)- of the limnonyms *Pečexoro*, *Pečxar* can be compared with the Mordvin equivalent of the Finno-Permic stem **pečä*, meaning 'pine': cf. (Erzya) *piče*, (Moksha) *pičä* 'id.' (see UEW II: 727; SSA 2: 345–346).

As we saw, the element *Jaxr*(*V*)- has generally been regarded as from Merya. In the region in which our search was carried out the element *Jaxr*(*V*)- with its variants may be joined to the name of a lake that still exists or has presumably existed in the Merya period (cf. however Popov 1974: 18). The relatively frequent distribution in these territories of this root, especially if all the variants of the element are taken into consideration, seems to point to a Merya origin (see Ahlqvist 1997: 29; 2000: 24–25). In any case, already on the basis of the archaic form of this place name element we could ask whether it originally really was a Merya one.

In Central Russia as a whole, especially in the former Merya territory, the basic element -(*V*)*xra*, -(*V*)*xro* is of quite rare occurrence. Because the distribution of this toponymical model is densest in the region of the Kljaz'ma and Oka rivers, this does not lead us to the conclusion that it is of Merya origin only (see Ahlqvist 1997: 29; 2000: 25–26, 30; cf. Sedov 1974: 30–32; Matveev 1996: 6, 9 ff.; 1998: 94; 2001: 39 ff.). These areas, behind the River Uvod', are actually in the border districts of Merya and Muroma, as considered by archaeologists (Leont'ev 1996: 269, 292). Thus, this model seems to be closer to the former Muroma territory – Popov (1948: 223; 1965: 119) locates these lake names in the territory of Merya and Muroma – or to some other hitherto unknown ethnic unity, that may have inhabited this region, between the Meryas and the Muromas (see also Matveev 2001: 57; cf. Šilov 2001: 26). In the Muroma land and in Meščera there are a number of limnonyms of this type, as well. In these areas the element -(*V*)*xra* of the Kljaz'ma and Oka changes almost unnoticed into those Mordvin lake names ending in *-erxa*, *-orka* (Popov 1974: 18). Even so, the lake names in *-xra* reach as far as the Tula Province, according to Popov (1948: 223).

The place name element *Javr-*, *Jagr*(*V*)-, *Jaxr-* ('lake') is typical of the northern territories of Russia (Matveev 1965; 2001: 35 ff.). It has often been compared to the Saami equivalent of the above-mentioned Finno-Volgaic noun **järwä* 'lake': cf. Saami (Northern) *jaw're* 'lake', (Notozero) *javr* 'inland lake' etc. (see UEW II: 633; SSA 1: 259; Popov 1947: 173; 1974: 18; Matveev 1965; 2001: 35; Mullonen 2002: 244–246; cf. Tkačenko 1985: 181). According to Popov (1965: 118), the lake names of Saami origin ending in *-javr*, *-jaur* have taken the form *-jar*, *-javr*, *-jagr*, *-jaxr*, *-gro* in Russian.

Extremely interesting is the fact that there are lake names in the Saami territories, for example, in the north of Sweden, which not only end in the basic element *-jaure* (*jávri*) ('lake'), but in some cases also in *-haure* (*-hávrre*): *Pieskahaure* (*Bieskehávrre*), *Sallohaure* (*Sállohávrre*), *Satihaure* (*Sádishávrre*), *Virihaure* (*Virihávrre*).[8] These cases are quite reminiscent of lake names in the Oka Basin -(*V*)*xra*, -(*V*)*xro* etc. Thus, it cannot be excluded that in the Merya territory the element *Jaxr*(*V*)-, *Jagr*(*V*)-; -(*V*)*xra*, -(*V*)*xro* etc. could have older roots than has been thought.

In addition to the element *Jaxr*(*V*)-, *Jagr*(*V*)-; -(*V*)*xra*, -(*V*)*xro* in Central Russia, including the Merya territory, I am firmly convinced that another main type of (former) lake name exists, ending in *-er*(*V*), *-eŕ*, *-or*(*V*), *-oŕ*, and less often *-ar*(*V*), *-aŕ* etc. (see Ahlqvist 1997: 29–30; 2000: 18–24). This basic element can be compared to, especially, the Volgaic equivalents of the above-mentioned root **järwä* 'lake': cf. Mordvin (Erzya) *eŕke*, (Moksha) *äŕkä*, *jäŕkä* 'lake, pond' (in which the ending *-ke*, *-kä* is regarded as a diminutive suffix) and Mari (Eastern) *jer*, (Western) *jär* 'lake' (see UEW II: 633; SSA 1: 259). In Mari, this noun occurs as a suffix in the forms *-er*, *-jar* ('lake') (Voroncova & Galkin 2002: 16). This basic element can appear in such a form as *-ar*, as well: compare the name of the Lake *Nestiár* and the settelement *Nestiáry* in the Nižnij Novgorod Province (see Moroxin 1997: 141). Correspondingly, the noun meaning 'lake' in Finnic languages, including Karelian and Veps is often transmitted in Russian adaptation as *-eŕ*, *-er*(*o*), *-or*(*o*), *-era*, *-ar*, *-jar*, *-jaŕ*, *gjaŕ* etc. (see Popov 1947: 169, 174; 1965: 118; Matveev 1998: 94). So the main mass of the smaller lakes in the territory of Beloe ozero bears names with the ending *-er*(*o*), *-jar* (Popov 1974: 19) or *-jar*, *-er*(*skoe*), *-oro* adapted from the Veps *järv* 'lake' (Kuznecov 1991: 56).

[8] See "Namn i fjällen" at the site www.fjallen.nu/besoka/namn.pdf.

In spite of the difficulty separating place names with such a universal combination of sounds as *-er*(*V*), *-or*(*V*), *-ar*(*V*) etc.,[9] there are, I believe, some very clearly identifiable cases with this lake name suffix. One of them is the place name root *Ner*(*V*)-, which points as a rule to the existence of a lake (past or present) of relatively large size compared to other waterways in the micro-territory. According to recent research (see Ahlqvist 1998a: English résumé in pp. 54–55), the root *Ner*(*V*)- with the original meaning 'great lake' is a compound **Iner*(*V*)-, in which the first component, the adjunct **In*(*V*)-, represents a root *enä* 'big' of Uralic origin (cf. Mordvin (Erzya) *iṅe*, (Moksha) *iṅä* 'great, large'), while the second component, the basic element is the above-mentioned limnetic suffix *-er*(*V*), *-or*(*V*). This root can be seen in the name of one of the central bodies of water in the Merya territory, the great lake *Nèro* (*Néro*, *Rostovskoe*), for example. The lake names *Inerka*, *Inarka* etc. ('great lake') of Mordovia can be regarded as analogical to the place name root *Ner*(*V*)-, which is found in the former Finno-Ugrian territories of Central Russia.

Adjectival adjuncts with the meaning 'great, large' are widely used in limnonymics, in general. Therefore, besides the four great lakes in the Merya territory – Nèro and *Pleščéevo* in Jaroslavl' Province, *Gáličskoe* (with its argotic variant *Neron*) and *Čuxlomskóe* in the Kostroma Province –, there are two more lakes of a similar scale in Central Russia. Both of these bear the Russian name *Velíkoe* (< Russ. *velíkij* 'large, immense').[10]

By comparing toponymical material in the present and former Finno-Ugrian territories, it is possible to find evidence of certain names of places in the natural environment and of settlements in the Merya territory having the ending *-er*(*V*), *-or*(*V*) etc. that could originally have referred to a lake. Thus, the name of the village *Kústeŕ* in the Merya land of the Chronicles in the Rostov County of the Jaroslavl' Province, represents I think, the ancient name of a small-sized nearby lake connected to the local river, the *Kost'* (*Kos'*). Concerning the name *Kústeŕ*, which now refers to the village, a parallel can be seen with the name of Lake *Kústorka* (*Kustorxa*, *Kustroxa*) which includes the Mordvin basic element *èrke* etc. 'lake' situated near the River Oka in the western borderlands of the Nižnij Novgorod Province (see Popov 1948: 221; Moroxin 1997: 121; AVO: 67). Cor-

[9] Because of this difficulty, I shall not venture here to separate this combination as a toponymical root.

[10] A plethora of etymologies for the place name root *Ner*(*V*)- have been suggested. Semantically closest to the solution presented are the hypotheses of, for example, Mägiste (1966) and of Matveev (1978; 2001: 50–51), who compared the name *Nèro* with the Finnish *meri* 'sea' or Karelian and Veps *meri* 'sea, large lake'. See for more details Ahlqvist (1998a); compare also Mullonen (2002: 271–282).

respondingly, there is a settlement named the *Šúgoŕ* with a rivulet or a ravine called the *Šúgorka* in the Rostov County, which can be compared with a lake named the *Šugur* ~ *Šugorka*, situated in the Mordvin territory in the Penza Government (see GBO: 239; Ahlqvist 1997: 29; 2000: 20–24; cf. Matveev 1998: 94; 2001: 47 ff.). Thus the *-er*(*V*), *-or*(*V*) in the Merya territory (mentioned in the Chronicles) could fully correspond to the Mordvin *-èrke*, *-orka*.[11]

The distribution of the suffixal element *-er*(*V*), *-or*(*V*), *-ar*(*V*) etc. is to be found roughly in an area extending from the Finnic lands to the Mordvin and Mari territories, while the basic element -(*V*)*xra*, -(*V*)*xro* is centred in the vicinity of the River Kljaz'ma, in the Muroma borderlands, from where it, to some extent, continues into the Muroma territory proper, and to the Meščera and Merya territory. From these latitudes the analogical root *Jaxr*(*V*)-, *Jagr*(*V*)- spreads further in the direction of northern Russia (see Ahlqvist 2000: 24, 30; cf. Matveev 1965).

Many questions arise: what really is the chronological order and ethnic origin of the basic elements -(*V*)*xra*, -(*V*)*xro* and *-er*(*V*), *-or*(*V*), *-ar*(*V*) etc. with the supposed meaning of 'lake'?[12] Does the root *Jaxr*(*V*)-, *Jagr*(*V*)- basically belong to the same substratum place name layer with the analogical suffix -(*V*)*xra*, -(*V*)*xro*, -(*V*)*gra*, -(*V*)*gro*, or do we have to separate them on the basis of the explicit territorial differences in their usage? What proportion of these indicates that apparently these name forms were adopted in different times and places into

[11] It is not possible to exclude all place names with the supposed element *-er*(*V*), *-or*(*V*) by explaining them away as based on the Russian lexicon or anthroponymics (see Matveev 2001: 35 ff.; cf. Ahlqvist 2000: 21–22, 26). For the name of a lake this kind of connection does not seem very likely. Concerning the village name *Kusteŕ*, for example, there really was a personal name *Kusteŕ* in Rostov in the year 1500 (see Veselovskij 1974: 174), but very evidently this peasant got this name because he himself was a native of the nearby village of *Kusteŕ*. It has to be emphasised that in fact many of the old anthroponyms that were used instead of (family) names, and sometimes occur even roots of Russian family names, were generated on the basis of local place names, including those of substratum origin. It would be interesting to determine how many names of substratum origin there are among these Old Russian anthroponyms: compare the following names, given by Veselovskij (1974) *Kiža*, *Kudejar*, *Kuxno*, *Kuxta*, *Kutilo*, *Ponagaŕ*, *Tuxta*, *Čuča*, *Šmaŕ*, *Šomaŕ*, among many, many others. Of course, every case must be studied separately, and with all the necessary data, including archival information.

[12] See, for example, Ahlqvist (1997: 30; 2000: 18–26, 30); compare Popov (1965: 118–120; 1974: 19) and Matveev (2001: 34 ff.).

different dialects of Old Russian? A correct definition of the sequence of these limnonym elements and of their origin calls for multidisciplinary studies.[13]

## Six supposed ancient lakes – an onomastic-palaeogeographical experiment

From the tens of presumed ancient lakes it was possible to choose for our example half a dozen of these (which later became mires or low meadows, for example), still bearing a name of substratum origin that seems to point to a former lake name, to an equivalent of the Finno-Volgaic noun **järwä* 'lake' in some form. All these places are situated in former Finno-Ugrian territories of Central Russia, most of them in the Merya territory, in the vicinity of the Merya lands of the Chronicles (primarily in the southern parts of the present Jaroslavl' Province). In all there were five objects in the Jaroslavl' Province and one in the Moscow Province (see Map on p. 49).

All of these places seem at first glance quite different: mires of different types and sizes and river valleys. Nevertheless, each is located in a remarkably even, low and wet terrain and has at least some kind of shoreline, a terrace that is quite clearly visible (see also Bronnikova 2005: 1 ff. and especially the more detailed figures 2, 5, 14). Even just a few decades ago these watery places were subject to flooding in the spring.

According to geological information, the conclusion can be drawn that the floods occur within the ancient shorelines of (former) lakes and rivers. If it can be shown that a mire was formed by the filling-in and the further paludification of a water system, then the latter was most likely bordered by mineral soil the surface of which is on a somewhat higher level than its surroundings. This is the shore of an ancient body of water that now limits to limnic and littoral sediments deposited at the bottom of the ancient water basin, and also to peat layers formed upon different kinds of mud. During the first phases of the development of the mire, when the water level mainly due to spring floods rose in the nearby still existing lake or river and the water inundated the mire, the mineral ground prevented the floods from spreading more widely than the limits of the former lake. However, the "over-waterlogged" mire has not always been able to absorb

[13] A way of determining both of these might be to delineate according to the age of the Baltic loans in the Finno-Volgaic languages, if the appellative **järwä* 'lake' turns out to be of Baltic origin, as suggested (see Nuutinen 1989; cf. SSA 1: 259). Supposing the noun has been borrowed from the Balts, what kind of differences could this have caused even in those distant times while there surely were chronological deviations, differences in the forms of both lending and receiving languages, for example? However, the Baltic origin of this lexeme is quite problematic (the loan relation might be just the opposite) and not generally recognised.

the extra water after a "deluge", and as a consequence open waters may have formed at the site of the ancient water basin (of the present mud and peat layers) and, because of ineffective natural drainage systems, could have survived for even longer periods of time. Nevertheless, this was accompanied by regeneration of the lake only exceptionally, for example when the waters of a lake "drowned" a mire next to the lake basin due to the tilting of the basin, which was for its part, the consequence of the uplifting of the land after deglaciation. The regulation of water courses by humans has no doubt brought about similar results in some places.[14]

One of the common features of those objects studied is the recorded existence in the immediate neighbourhood of a considerable number of other place names of Finno-Ugrian substratum origin, mostly river or stream names or other microtoponyms.[15] That is of course one of the proofs that this vicinity has long been inhabited by a Finno-Ugrian population. Unfortunately, it is only possible to consider a few of these here.[16] Where archaeological information concerning these places is available, due attention will be paid to this.

The palaeogeographical part of this study has been contributed by M.A. Bronnikova, a researcher at the Institute of Geography, Russian Academy of Sciences (Moscow).[17] The field work took place during August 2004. Because the time for field work was very limited (approximately one object per day), researching the smallest mire, the *Iž'eŕ* and perhaps also the *Semigradovo*, was more or less possible, although the other objects of not less than about 20 ha in

[14] M. Moisanen and Juha Ruohonen (personal communication).

[15] In some degree less, only with regard to the surroundings of the object *Sumeŕ* in the Moscow Province.

[16] Onomastical data, based on interviews with local people, and personal observations made during our expeditions to these places in Central Russia form a background for this study. Unfortunately, we did not have the possibility to do archival studies for this research.

[17] The following palaeo-geographical conclusions are based mainly on the report of Bronnikova (see Bronnikova 2005), and also on separate stratigraphical description of objects studied (containing all exept *Ošara*) (Bronnikova 2004) and summaries by other Russian parties (Maljasova 2004 and Uspenskaja 2005) not mentioned separately in the references. The original diagrams and tables, including the results of pollen and biological analyses and radiocarbon dating, have been prepared for publication and translated into English by Bronnikova. The report with figures, diagrams and tables may be viewed at the corresponding site (see Bronnikova 2005). References including number of figure, diagram or table will be given below (also M.A. Bronnikova, personal communication). With particular regard to certain issues of dispute the comments of some specialists, experienced in studying ancient lakes in Finland, have been taken into account.

size were far too wide for us to have time to get even a general overall impression of these places because of the tightness of our schedule.

Soil samples using a bore (for radiocarbon dating with a spade) were taken from each of the objects in some of the sections in order to determine whether a mire or lake had existed there earlier. Two kind of analyses were made for this purpose: pollen and biological (samples on average about 0.5–1 decilitre each). The pollen analysis (74 samples) was conducted by palynologist E.S. Maljasova (St Petersburg, 2004) (see Bronnikova 2005: 2 ff., diagrams 1–4).[18] The biological composition of the sediments (134 samples) was analysed by senior researcher O.N. Uspenskaja (Vegetable-growing Institute, Russian Academy of Agricultural Sciences, Moscow, 2004–2005) (see Bronnikova 2005: 2 ff., tables 1, 2, 4–14).

One of the purposes of this study was to get some preliminary information concerning possible different layers of (sub)substratum lake names. Radiocarbon (C14) dating should show the age of the supposed ancient lakes: the periods of possible lake stages, and date of the drying up of the lakes. The assumption was that among these objects there should also be lakes that existed not only during the Merya period, but even in more ancient periods. The radiocarbon dates (10 samples) were obtained at the Radiocarbon Laboratory of the Institute of Geography of the Russian Academy of Sciences with M.A. Corjagina, E.P. Zazovskaja, V.M. Alifanov as technical staff, supervised by O.A. Čičagova (Moscow, 2004–2005) (see Bronnikova 2005: 2 ff., table 3). Relative datings of a part of the objects have also been obtained by pollen analysis.

As a whole the results of the analyses seem promising. On the base of these Bronnikova (2005: 36–37) concludes that in four cases out of six can she be sure enough that in the period of the Middle Ages an ancient lake existed in the place of the present mire (objects *Kromnica*, *Vožerka*, *Iž'eŕ* and *Ošara* – the latter with some rather small river bed lakes), in one case this possibility is not excluded (object *Sumeŕ*) and only in one case does she think that there was originally not a lake but a mire (object *Semigradovo*).

In discussions with geologists M. Moisanen and M. Mäkilä it did, however, seem that some fundamental errors were probably made during our field work and in analysing the samples. The main problem turned out to be that in this study the diatoms (*Diatomeae*) were determined only by genus, not by species.

[18] Unfortunately, only samples of four places were analysed. A pollen analysis of *Ošara* was not made at all, and that of *Semigradovo* (3 samples) was made from depths of 145–185 cm, from a stratum of sandy clay and sand containing no pollen or organic material (see Bronnikova 2005: 31; Maljasova 2004).

Furthermore, it is well known that some diatom species of the same genus can live not only in water habitats but also in other wet places, for example on the surface of a mire. Thus, the diatom data at genus level can not be used by itself to verify whether or not there were lakes or mires.[19] That is why in continuation very limited attention will be paid to diatomical data.

Moisanen and Mäkilä instructed me that sampling also seems to have been somewhat problematic. Sampling with the aid of an open bore is commonly considered unsuitable especially as far as pollen, diatom and macrofossil analyses are concerned, not to mention a sampling for radiocarbon analysis (a spade is not usually recommended for this purpose, either, but that depends on other things).[20]

Bronnikova (2005: 8 ff., table 3) raises this problem with the radiocarbon analyses: it is difficult to accept the ages they give. Most of the results of the analyses of C14 are considerably older than would be anticipated. Moisanen emphasised the fact that most of these objects are quite difficult for dating, because of the influence of old sediments redeposited by, for instance, flowing water (rivers in most cases) which gives a higher age for the material than would be expected. That is why more tranquil layers are needed for dating. It must further be mentioned that the samples for C14 were taken upright from the lowest peat layer (of not less than one kilo each), not as a horizontal slender slice, as they should have been according to Moisanen and Mäkilä (see also Bronnikova 2005: 7–8).

One very important detail should also be stressed. Water plants usually pollinate only in very small quantities.[21] This can well be seen by comparing the quantity of the pollen of different flora in separate ancient lake studies: the amount of pollen from aquatic plants is really very small, compared with that of other flora or their relics. With reference to this fact the positive results (in two cases out of four) must be taken particularly seriously, and therefore their significance should not be underestimated (see *Vožerka* in Bronnikova 2005: diagram 2, and especially *Sumeŕ* in diagram 4 and below). These sites should without a doubt be regarded as ancient water basins.

Nor should there be any doubts about the existence of ancient lakes in those cases in which a lacustrine sediment (sapropel, gyttja) has been found (see espe-

[19] M. Moisanen and M. Mäkilä (personal communication; also below).

[20] Where it was possible, every attempt was made by Bronnikova to use the inner parts of samples for the analyses to avoid stratigraphic disconformities caused by impurities which always accompany samples taken with an open cauge auger, as Moisanen pointed out to me.

[21] M. Moisanen and T. Lempiäinen (personal communication; also below).

cially objects *Ošara*, *Sumeŕ* and *Kromnica* below). Visually and on the grounds of some samples, it would seem to geologists Moisanen and Mäkilä that in some cases the material could have been, not peat, but sapropel: in *Ošara* and *Iž'eŕ* there seems to be quite a stratum of it, and to some extent in *Vožerka*, and even in *Semigradovo* there is also something like sludge. However, Moisanen and Mäkilä emphasise that because of the nature of most of these objects (their connection to river systems that bring mineral material), most of the samples seem to be not exactly peat, not exactly gyttja, but of course determining this would only have been possible *in situ*.[22]

There is still one fact that must have influenced the results: within human memory most of these mires have burned. We were told that there was a fire in *Kromnica* in the 1930s, *Vožerka* burned twice in the 1930s and 1970s and *Semigradovo* at the turn of the 1960s (this only became clear after the mire research). In some objects there has also been human induced change, too. The *Vožerka* site has been affected by amelioration and extraction of peat on a small scale, and the site at *Sumeŕ* has been seriously harmed by peat harvesting (see Bronnikova 2005: 11 ff.). The peat at the *Ošara* site was extracted for domestic needs, as well.

*Kromnica*

The *Krómnica* (*Krómnickoe*) mire in the Uglič County of the Jaroslavl' Province, by the river system Ust'e, apparently otained its name in a secondary way from the name of the village of *Krómnica*, which has now disappeared, on its shore (object 1 in Map; see also AJO: 98; Bronnikova 2005: 3 ff., figures 1–3).[23] It is very evident that the village name for its part is based on the existence of this natural object, which would have been a lake and not a mire, when people first settled on its shore. I believe that this settlement obtained its name from the ancient lake, by which it stood. This lake must have been referred to by a term for terrain such as **Jaxro-*, **Jagro-* 'lake' (cf. the root mentioned above in the simplified form *Xr*(*V*)-, *Kr*(*V*)-, *Gr*(*V*)-). Perhaps a place name **Jaxroma* (cf. the

[22] See also Bronnikova (2004; 2005: 2 ff., figures 1, 6, 9, 15, 20, 23), compare Maljasova (2004).

[23] The name *Kromnica* could be regarded as a typical example of folk etymology: it is easy to link the root of this name to the Russian word *kromá*, *króma*, *krómka* 'edge etc.' (see e.g. SRNG 15: 274–276), which it hardly had anything to do with, originally (cf. also WRG II: 537–538). Surely, there Russian suffixation can be perceived at the end of the name, as in very many cases of substratum place names, especially at the ends of settlement and lake names; river names mostly have retained their original suffixal form.

river name *Jaxroma* already mentioned) was once found here that later just diminished to the form **Xroma* > **Kroma*?

The *Kromnica* mire is a very soggy place, a quagmire in fact (see also Bronnikova 2005: 4). While standing on its sandy shore, under the pine trees it is still easy to imagine the surface of a lake here. According to local people, geologists, studying the nearby ridge for a gravel pit at the beginning of 1960s, confirmed that there was a lake in the past in just this place.[24] Even a few decades ago the *Kromnica* mire used to become so flooded in spring that people had to cross the water in a rowing boat.

Besides the geographical evidence, there is one other fact that makes the existence of a lake in this place seem essential. This is a river named *Véksa*, into which the waters of the mire *Kromnica* empty through a short watercourse, an outlet (see also Bronnikova 2005: figure 2). The river name *Véksa* or, generally, *Vëksa* regularly refers to rivers that flow out from just one lake into another lake or river. All the four great lakes in the Merya territory have their *vëksy*, and in all there are more than ten rivers with this name inside its limits – the southernmost is situated in the north of the Moscow Province and the northernmost ones in the vicinity of Vologda. It is generally agreed that this term for terrain is a lexical element of Merya origin and one of the most unambiguous indicators of Merya toponymics.[25]

According to Bronnikova (2005: 3–4, 9–10) the lake itself could have been created here a very long time ago. The *Kromnica* mire is situated on the fringes of one of the palaeolakes from the Valdai stage, which later on became formed into a river valley. Bronnikova assumes that in the late Pleistocene this depression was a flowing, lake-like broadening out of the bed of the River Ust'e or of its branch, which was later transformed into an old river bed lake, and afterwards into a mire. Among many supposed lake stages of the *Kromnica*, Bronnikova sees here in the late Holocene a lake that, in practice, filled the entire de-

[24] Unfortunately, it was not possible to get hold of this material.

[25] See, for example, Popov (1965: 89–90), Matveev (1974; 1998: 96–97, 103), Vostrikov (1980: 73), Tkačenko (1985: 55–56), Ahlqvist (1997: 26, 31; 2000: 83), Pospelov (1999: 83) and Šilov (2001: 16–17, 26); compare also Mullonen (2002: 290–293). It is not feasible to explain the local hydronym *Veksa* as a transportation of a name, especially when the circumstances of other *vëksy* fit well with those of this site. Nowadays, this *Veksa* begins not from the *Kromnica* mire itself, but through a short outlet (Russ. *Čërnaja lúža* 'black puddle') between the mire and the *Veksa.* In any case, the beginning of this outlet is still greatly reminiscent of the beginning of other *vëksy*.

pression, reaching very close to what is nowadays the shore of the mire. One of the dryer stages falls between the 8th – 12th centuries.

What has been described as sandy peat-gyttja was discovered at a depth of 77–82 cm in the main section of the research area (Bronnikova 2004). On the basis of palaeo-geographical studies that have been made, clear signs of a lake stage can be seen in the *Kromnica* mire at a depth of 55–75 cm (or, alternatively, 15–35 cm) from the surface of the ground (see Bronnikova 2005: 6–7, tables 1–3; Uspenskaja 2005). At these depths the abundance of *Algae* (*Diatomeae*, *Crysophyta*) increases, and to some extent also their richness in species. Remains of cladocerans (*Cladocera*) and of *Pinnularia lata*, the latter surviving mainly in oligotrophic lakes and ponds with cold water, have been found (Bronnikova 2005: 7; Uspenskaja 2005). It may be worth mentioning that *Pinnularia lata*, also a somewhat aerophilous species can be found even on rocks over which water flows, as stated by Moisanen.

At these depths club rush (*Scirpus*) grew in great quantities (Bronnikova 2005: tables 1–3; Uspenskaja 2005). Bronnikova (2005: 4, 7) states that in mires of lake origin the kind of combination of flora seen in the *Kromnica* today often develops.[26] According to her, the last lake stage to be described falls approximately into the Little Ice Age, i.e. since about the end of the 12th century until the beginning or middle of the 19th century. The final phase of mire formation has taken place in last 100–150 years – for details see Bronnikova (2005: 3–10).

*Vožerka*

The valley of the River *Vóžerka* in the Tutaev County of the Jaroslavl' Province beyond the River Volga is a flat mire territory, drained for agricultural land in the 1970s by canals, and nowadays seeking again its natural state (object 2 in Map; see also AJO: 50; Bronnikova 2005: 10 ff., figures 5–7). The *Vožerka* is a map name, assigned within the memory of the older inhabitants of the nearby villages. They substantiate that the river was originally called *Óžerka*, thus the initial *V-* must be seen as a prothetic sound. The forms *Óžarka*, *Ížerka* and *Úžerka* (*Úšerka*) were also registered from people in the nearby villages. There are written forms of this hydronym such as *Vožarka*; the local river name *Vožaraš* could also belong to the same name cluster (see WRG I: 342).

[26] No pollen of aquatic plants was found in the case of *Kromnica* (see Bronnikova 2005: diagram 1), which may have something to do with the fact that the pollen analysis was made at depths of 190–280 cm (compare above).

According to local people, the *Vožerka* river valley was susceptible to considerable flooding in springtime, before the draining began. The bottom of the river was earlier sandy (see also Bronnikova 2005: figure 6), and used to be inhabited with crayfish, which prefer clear water. We were also told that at the site of *Vožerka* there are "5–6 springs".

This place is a watershed at the starting point of three rivers with Finno-Ugrian names: *Vožerka*, *Úrdoma* and *Úxra*, the last of which might be connected with the element considered above *Jaxr*(*V*)-, *Jagr*(*V*)-; -(*V*)*xra*, -(*V*)*xro* meaning 'lake' (see Ahlqvist 2000: 25–26; cf. Matveev 2001: 41). The *Uxra* flows through a remarkable mire named *Várgas* (*Árgas*), still regarded by older people as a 'lake'. Analogies with a model of this kind could be seen in the river name *Jaxra* (that should be regarded as an ellipsis) mentioned above, or in Russian river names of the type *Ozerka*, *Ozernaja* etc. 'lake [river]' (see WRG III: 463 ff.), for example.

The root *Vož*(*V*)-, or actually *Ož*(*V*)-, and the basic element -*er*(*V*) with the meaning 'lake' may be assumed in the name *Vožerka.* In principle this basic element could also originally have been of the Mordvin type *eŕke* ('lake'), but more probably it derives from -*er*(*V*) and a Russian final -*ka.* The root *Vož*(*V*)- can be distinguished when making comparisons with such hydronyms as *Vóža* which refers to no less than four rivers in the Jaroslavl' Province alone, most of these being beyond the Volga (see AJO: 48, 49, 51–52, 76; Ahlqvist 2000: 23; cf. Matveev 2001: 49). To the north of the *Béloe ózero* (Russ. 'white lake') in the Vologda Province there is a lake *Vóže* (*Voža*) with river named the *Vožega* (*Vožga*, *Voža*) (see WRG I: 342).[27] The *Vožerka* studied also has a "namesake", the River *Vóžerka*, in the neighbouring Pošexon'e County of the Jaroslavl' Province shown on the map as *Ožerka* (see AJO: 35). Even in the former Olonec Government the lake names *Vožozero* and *Vož-jarvi* are known (WRG I: 342, Nachtrag: 107). Also the root *Važ*(*V*)- of the River Svir' basin area could be of the same, quite ancient, origin (see SGBS: 14, and the footnote 46, below).

As far as the root *Vož*(*V*)- < *Ož*(*V*)- is concerned, I tend to see here an equivalent to the adjective meaning 'white' of some Finno-Ugrian languages: compare this lexeme in the Volgaic languages, Mari *ošo*, *ošə̑*, *oš* 'white; blond; clean', Mordvin (Erzya) *ašo*, (Moksha) *akša* 'white; clean' (see UEW I: 3–4;

[27] There is a basic element -(*V*)*ga* in the hydronym *Vožega* from which many substratum river names of Finno-Ugrian origin are formed: compare the Uralic stem **joke-* 'river' in Finnish, Karelian *joki* 'id.', Estonian *jõgi* 'id.', Veps *jogi*, *ďögi* 'id.' etc. (see UEW I: 99–100; SSA 1: 240; cf. also E. Helimski's contribution in this volume).

SSA 1: 124; SMY 4: 361–362; MW I: 76–78).[28] From very near the same site, where the River *Vožerka* has its source, a river named the *Čërnaja réčka* (Russ. 'black river') begins its course (cf. Matveev 1998: 93–94).

It is well known that certain toponymical models occur frequently in place name layers with different language backgrounds. Adjectival adjuncts with the meaning 'white' and 'black' are widely used in limnonymics in general. So in addition to the most famous *Ózero Béloe* in the land of the ancient Ves' mentioned above, tens of parallels for it can be found in the territory of Central Russia alone. A remarkable number of smaller lakes with the Russian name *Beloe ozero*, *Beloozero* ('white lake') and the contrasting *Čërnoe ozero* ('black lake') have been listed in the literature and in the atlases and maps.[29] For instance, we might look at the northern parts of the Rjazan' Province (see ARO: 7–8, 17–18), where three lakes with the name *oz. Beloe* ('white lake') are situated beside a large lake Velikoe. One of them is connected to a river named the *Voža.* In the vicinity there is also the *oz. Belen'koe* ('white lake', with the diminutive form of the adjective). There are also such Russian combinations as the river named *Belozerka* ('white lake river') (see WRG I: 116, Nachtrag: 48; GBO: 221), which should be analogical with *Vožerka* (assuming that this name has the Russian suffix *-ka*, and not an equivalent to the Mordvin *-eŕke*). A corresponding model is to be seen in a river name with a Finno-Ugrian root and Russian basic element, the *Sumozerka* flowing through the lake *Sumozero* (*Sumo*) in the former Archangel Government (see WRG IV: 440, and the root *Sum*(*V*)-, *Som*(*V*)- under *Sumeŕ* below).

During our field work tens of parallel lake names were found with the Russian name *Beloe ozero* or *Čërnoe ozero*, most of which are the names of really small, almost insignificant sites. Among these microtoponyms are little lakes called *Béloe ózero* ('white lake') and *Čërnoe ózero* ('black lake') in the Vjazniki County of the Vladimir Province. The diameter of both of them is about 20–30 metres. We were told that the depth of the sandy-bottomed 'white lake' is "18 metres" and that of the 'black lake' with cold water is "24 metres". Sometimes the 'black lakes' are really regarded as deeper than the 'white ones'. A small

[28] The unsteadyness of the voicing correlation is a quite regular phenomenon in the place names and dialectal vocabulary of substratum origin in Central Russia (in this case *oš* has changed to *ož*, exept in the mentioned variant of this name, *Ušerka*). The lake name *Ožy järv* in Mari Èl appears similar, the adjunct of which is however explained not by the Mari *oš* 'white etc.', but by the noun *ožə̑*, *ožo* 'stallion' (MarNII; see UEW II: 607–608; cf. *Ošara* below).

[29] See, for example, WRG (I: 113–117, V: 150–154, Nachtrag: 46–48), GBO (79 ff.), SGBS (4 ff.) and the atlases of the Central Russian areas mentioned in the references, especially ATO.

lake like a mirror, the *Béloe ózero* in the Savino County of the Ivanovo Province, has a sandy bottom and springs in it. It seems that many of the 'white lakes' have sandy bottoms (see also Pospelov 1999: 90). The springs in these can surely be regarded as one of their main characteristics. Moisanen reports that while the water of the 'white lakes' is clear, that of the 'black lakes' is rich in humus (see also Ageeva 1990: 145–146 and the 'black lakes' below).

According to Bronnikova (2005: 10–11, 13, 15) at the end of the Moscow period of glaciation small glacier lake existed here, which was later drained by the River *Vožerka.* Palaeogeographical research shows that in the subatlantic period the depression of the River *Vožerka* might have been filled with a basin of low water. According to Bronnikova the sediments at the depths of 100–200 cm were formed in conditions of increasing hydrodynamics. In the Early Middle Ages this basin shrank, but a rise in water level can clearly be observed at a depth of 80 cm.

Bronnikova concludes that in the dampest period of the Little Ice Age (14th – 19th centuries) the water in the lake was presumably at its most abundant, corresponding to that lake stage found at a depth of 50–80 cm from the present ground level. At these depths the pollen analysis revealed such aquatic plants as bur reed (*Sparganium*), pondweed (*Potamogeton*) and yellow water lily (*Nuphar lutea*), as well as the shore plant reed mace (*Typha*). The biological analysis found here remains typical of lake plants, slender naiad (*Najas flexilis*) and remains of macrophytic algae *Charales* which are common in quiet freshwater habitats such as ponds and streams; a few are found in brackish water. Also notable is the existence of animals, dependent on water, such as the cladoceran and sponges (*Spongia*). The sediments at depths of 20–80 cm seem to be deposited in relatively still waters. Bronnikova assumes that the final paludification began in that part of the depression researched during the last centuries – see detailly Bronnikova (2005: 10–15, diagram 2 and tables 3–5).

*Iž'eŕ*

A very small mire *Íž'eŕ* (not more than 0.5 ha) is located in the Rostov County of the Jaroslavl' Province, in woods situated in the middle of an open field (object 3 on Map; see also AJO: 111, the mire nearby *Poreevo*), in the watershed between the rivers Sara and Nerl' (Bronnikova 2005: 16 ff., figures 9–12). In springtime the *Iž'eŕ* is more waterlogged, but this is quite a wet place the whole year round. This mire is a closed one (Bronnikova 2005: 17): there is no stream

conducting the water out of it. The closed Lake *Ščerbét'*, which still exists near a neighbouring village, seems very similar to the *Iž'eŕ* mire of approximately the same size and surrounded by similar terrain. There are also other, better known lakes in this part of the Rostov County, such as *Rjúmnikovo* (*Rjúmnikovskoe*), *Čášnicy* (*Čášnickoe*) and *Čáčino*, all with names of Finno-Ugrian origin. Many of these lakes are not deep: the typical depth of Lake *Lovéckoe* at its centre is about 0.7–1 metres, for example (see Fortunatov & Moskovskij 1970: 69; Bronnikova 2005: 16).

The lake origin of the *Iž'eŕ* mire has been resolved: already the stratigraphical data speak for this (see Bronnikova 2005: 17–20, 22). According to Bronnikova (2005: 16–17), the *Iž'eŕ* belongs to a group of small, shallow lake basins, formed as a result of the glacial period, which have reached or are reaching the end of their existence. Usually the basins of these lakes or mires of lake origin are roundish in shape, like a saucer or a little elongated, even bean-shaped.[30] One of our informants told us that according to older people there really was a small lake (*ozërka*) in this place.

Bronnikova states that the lake must have existed at the *Iž'eŕ* site for a long period – originally this was quite a deep depression. The remains of an aquatic plant, one of the subspecies of the naiad – *Najas minor*, have been found in the deepest stratum (380–390 cm). Two wetter periods, actual water stages in *Iž'eŕ* have been distinguished on the basis of a biological analysis. At a depths of 170–255 cm there are signs of a lake stage, to be seen for instance in the remains of animals, dependent on water – *Spongia* and remains of the macrophytic algae *Charales*. The remains of an arrowhead (*Sagittaria sagittifolia*), which grows on the shores of lakes or rivers (FF: 28), club rush (*Scirpus*) and reed mace (*Typha*), have been discovered here. Younger lake stages lie at a depth of 67–77 cm, in a layer of peaty and sandy sludge, where typical representatives of water microfauna, for example *Bryozoa*, have been found. The cladoceran and *Spongia* are found in surface layers of 0–35 cm. Bronnikova supposes that the *Iž'eŕ* lake become lower little by little and has at last began to form a mire during the last centuries – for details see Bronnikova (2005: 16–22, diagram 3 and tables 3, 6, 7A–B).

A basic element *-eŕ* meaning 'lake' in the microtoponym *Iž'eŕ* can clearly be distinguished, although the etymological analysis of the root does not seem to have been established with any certainty. On the basis of some kind of mystical echo considered to be bad heard at this site – it was said that the place was frightening, that a woman used to appear here – I first thought that the root of

[30] Also R.G. Gračeva (personal communication; also below).

the name *Iž'eŕ* might have a connection with the word *hiisi*, alluding to the holy places of Baltic-Finns in the past (see SSA 1: 162; UEW I: 499–500; Ahlqvist 1998b: 12–20). However, since it became clear that one of variants of the hydronym considered above *Vožerka* happens to be *Ižerka*, the question of the etymology has become more complicated. Thus, the ancient lake *Iž'eŕ* could have been one of the 'white lakes' in this territory (see the grounds for the nomination of the object *Ošara* below, and also the above-mentioned *Vožerka*).[31] Now the only way to progress further is to find out whether there is any archival material (by willingly comparing them to those of the *Vožerka*) that could shed some light on this question, which so far has not been resolved.

*Ošara*

The low meadow of *Ošára* is situated in the Rostov County of the Jaroslavl' Province, in a place in which the River *Péčegda* meanders (object 4 in Map; see also AJO: 110), and at which point it goes around a morainal ridge (see Bronnikova 2005: 22 ff., figures 14–18). The name of this river bears the suffix

[31] Once this name was registered in the form *Ížery*. It must, however, be emphasised that unlike the hydronym *Ižerka*, the name *Iž'eŕ* has regularly a pronounciation atypical of Russian: the sibilant *ž* is soft (whereas in modern Russian it should be hard). Auditorily there is no component *-j-* (cf. Mari *jer*, *järˇ* 'lake') in the hydronym *Iž'eŕ*. Anyway it is possibile that the component *-j-* could have existed in this name for such a long period that it resulted in a palatalisation of the sibilant. In any case in early Russian *ž* has been palatalised, and has perhaps preserved its palatalised character in this case because of a palatalised context (vs. *Ižerka* with the non-palatalised *r*) – cf. also T. Salminen and Jouni Vaahtera (personal communication).

Lake names found in the Mari territory such as *Iz''er*, *Izi er*, *Izijar* with the meaning 'small lake' hardly offer a solution to the etymology of the hydronym *Iž'eŕ*: there is a separate hydronym root *Iž-* of Finno-Ugrian origin in the Mari territory, as well (see Voroncova & Galkin 2002: 74, 76, 88–89; Veršinin 2005: 127). A similar root also occurs in the Mordvin territory: compare the River *Ižléj* in the Nižnij Novgorod Province (see Moroxin 1997: 96) or the River *Išlej* in the former Penza Government (see WRG Nachtrag: 167). One of the rivers named *Iž* in the former Vjatka Government has the variant *Ož* (see WRG II: 121). The hydronym root *Iž-* of Permian territories has been connected to the Komi *èža*, (dialectal) *iža* 'meadow, grass', Udmurt *ožo* 'grass, hay' (see Afanas'ev 1996: 67). Of interest too might be the name of the River *Ižora* (identical to *Ižorka*?) (see WRG II: 122), which also has the form *Ižera* in Ingria in the St Petersburg region (see Grünthal 1997: 183).

-(*V*)*gda*, -(*V*)*xta*, concentrated in the Merya territory. We also registered a variant of this name here, *Péčega*, which possibly belongs to a more ancient layer.[32]

To date, in addition to the Merya settlements, those of the D'jakovo Culture, and even more ancient sites in the Rostov and Pereslavl' Counties, have been discovered by archaeologists. The *Ošara* meadow lies less than ten kilometres south of one of the Merya centres, the defended settlement and cemetery by the River *Sára.* A remarkable number of sites from the Early Iron Age have been unearthed in this territory (see Leont'ev 1996: 31, figure 4). The *Ošara* site lies just between two of these: not more than two kilometres from the villages of Osokino and Gusarnikovo.

Further, in this case I tend to isolate a variant of the basic element *-ara* meaning 'lake', connected to the root *Oš*(*V*)- – the equivalent of the adjective with the meaning 'white' in the Volgaic languages (see *Vožerka* discussed above; cf. also *Iž'eŕ*). The *Ošara* would also be 'white lake'. Of similar construction are some lake names in Mari Èl such as *Ošjär* or *Oš jär* translated 'white lake' (see Voroncova & Galkin 2002: 250; Vasikova 2003: 201).[33]

Moroxin (1997: 147) regards the name of the village *Óšaraš* in the Nižnij Novgorod Province as of Mari origin, translating it as 'white spring'. Actually, the basic element *-ar*(*V*) ('lake') with the Mari diminutive suffix,[34] in addition to the root *Oš-* (~ Mari *oš* 'white'), can be identified in this name. So the translation for *Ošaraš* would be a 'small white lake'. In Mari Èl there is still a lake named *Ošäräš* (MarNII). Except for the diminutive suffix, these forms could be regarded as parallel to the *Ošara* of the Rostov County.

There are also Russian analogies to this model in the vicinity of *Ošara* and *Iž'eŕ.* Lake *Karáš* in these same parts (actually about three kilometres from the *Iž'eŕ* mire) is known among local hunters and elderly people by the Russian name *Béloe ózero* ('white lake') (see also Titov 1885: 273). Three kilometres from it (and correspondingly three kilometres from the same *Iž'eŕ*), in the middle of the Tokarevo mire, is a small boggy lake called *Čërnoe* (Russ. 'black

[32] We have already seen the place name root *Peč*(*V*)- 'pine' above in the context with the lake names *Pečexoro*, *Pečxar.* The variant *Pečega* takes the suffix mentioned above, -(*V*)*ga.*

[33] There is also a Mari village named *Óšar* (*Ošár sóla*), in Russian *Ošáry* in the Nižnij Novgorod Province (see Vasikova 2003: 201). An explanation for the three local place names *Ošára* is based on the Russian dialectal appellative *ošára* 'tramp; traitor etc.' with corresponding derivatives (Moroxin 1997: 41, 147; see also SRNG 25: 79–81). This may have been connected to the toponym only at the folk etymology level. However *Ošára* (*Ošarskaja*) Street in the city of Nižnij Novgorod starts at the *Čërnyj prud* ('black pond' – see Moroxin 1997: 41, 48).

[34] Compare Mari *jeráš*, *järaš* 'small lake' (see SMY 1: 436–437; Popov 1974: 26).

[lake]') (see also Fortunatov & Moskovskij 1970: 40; cf. Titov 1885: 233). There is another small 'black lake' (*Čërnoe*) farther to the south of the *Ošara* site.[35]

The bed of the River Pečegda is broad in this valley, in which a lake-like broadening of the river was probably to be observed in the past (Bronnikova 2005: 22–23.) The existence of a lake covering the whole valley of *Ošara* in the remote past is also corroborated by the fact that according to Bronnikova sapropel has been found alongside the ridge even at a depth of more than three metres, and below this again, sand (below 347 cm). In this same place, at a depth of 280–290 cm the remains of cladoceran have also been found (cf. Bronnikova 2005: 29, table 9B). Because of the developed state of the flooded marshland Bronnikova (2005: 23, 28–29) asserts that no lake has existed within the limits of the entire valley for at least several millennia; rather there were some smaller water aggregations of old river beds, one of which was discovered on the basis of a biological analysis in *Ošara*.

According to Bronnikova (2005: 23–24) the stratigraphical data concerning the shore of the old river bed points clearly to the existence of a (river bed) lake. As a whole in section 1 the characteristics of the water basin from a depth of 215 cm to a depth of 30 cm seem to be almost unchanged. Although this basin was quite shallow, it still contained enough water to flow. Two depths with a risen water level – 30–65 cm (peaty gyttja) and 115–150 cm (gyttja, a little sandy; sandy gyttja and sand with organic sludge) – are to be clearly distinguished. At these depths plants appear, totally emerged in the water: pondweed (*Potamogeton*), hornwort (*Ceratophyllum demersum*) and a significant amount of the remains of white water lilies (*Nymphaea*). There are such aquatic or shore plants as the flowering rush (*Butomus umbellatus*), sweet flag (*Acorus calamus*) and reed mace (*Typha*). Worth noting at just these depths is the existence of cladoceran. Upwards at a depth of 30 cm, the process of drying in this basin can be seen in the state of the water and mire – see detailly Bronnikova (2005: 22–29, tables 3, 8, 9A–B, 10).

A question arises; is it really possible that in such a small pond such a large quantity and spectrum of diatoms could have survived, as shown by the results of the biological analysis? This site is the richest of the objects we studied, as far as the remains of Algae are concerned, and also very rich in other indicators of wateriness.[36] Is it really possible that within the last two wetter climatic periods

[35] A.E. Leont'ev (personal communication).
[36] See Bronnikova (2005: tables 8, 9A–B, 10); also M. Moisanen (personal communication).

of the Late Holocene – the latter corresponding to the Little Ice Age – to which the two abundant water stages at this site have, for good reason, been connected, there really was only the pond described above, an old river bed in size, not more than 10 metres in diameter and a couple of other "lakes" similar to this in the low valley with a total size of about 17–18 ha?[37]

The site, called *Ošara*, covers the entire broader side of the river valley, the side on which the village of *Máurino* (*Maurina gora*) is situated: a sharp bend in the river Pečegda (followed by hilly terrain, nowadays a railway runs through this area) forms its natural limits. No essential differences in heights are to be observed in the valley, except for the river itself and some apparent evidence of old beds (cf. Bronnikova 2005: 23, figure 14). The ancient shore-line rises very conspicuously from the valley plain; this can be seen particularly when descending from the village Maurino to which *Ošara* belongs (cf. Bronnikova 2005: 22, figure 16). If there were no open water by the village, this place with a mire, through which a small river flows, does not seem a very typical place to establish a settlement in those times, when the village *Maurino* – with an "ancient Finnish name", as thought (Titov 1885: 222, cf. 213) –, is supposed to have started its existence. It would seem more credible that the open water should have been closer to the village.

The *Ošara* meadow is still a soggy place, especially in the spring. Whole areas of lowland were filled with spring floods, even a few decades ago, actually forming a lake here, with fish in it (see also Bronnikova 2005: 26–27). Not only because of the extent of the referent of the toponym, but also because of the characteristics of the valley itself, it would not seem very plausible to imagine small pools or ponds here, but rather some kind of lake basin along the course of the river in the past, perhaps still even in the Middle Ages. The proposal of Bronnikova (2005: 29) that some of these "river bed lakes" could possibly have been connected to each other during the dampest period, thus forming a single river bed water basin which sometimes flowed, seems more plausible. Gračeva reached similar conclusion, and Moisanen believes there could have been something like a quiet water lake of a river at this point. In addition to the *Ošara* there could have been other lake basins beside the Pečegda, as well: these kinds of lake chains can still be seen beside the tributaries of the Oka, for example (cf. also Bronnikova 2005: 3).

In any case the toponym *Ošara* survived much longer than its referent, the supposed lake of some kind. But when the last two aged natives of this almost

[37] Compare Bronnikova (2005: 22–23, 29, figure 14 and table 3), and what is mentioned below concerning the *Semigradovo*.

dead village have passed into eternity, no one in this locality is likely to ever pronounce the name *Ošara* any more.

*Semigradovo*

The *Semigrádovo* mire (*Semigrádovskoe bolóto*) is situated in the Pereslavl' County of the Jaroslavl' Province (object 5 in Map; see also AJO: 98, 107; Bronnikova 2005: 29 ff., figures 19–21). This low, bean-shaped depression of a few hectares in size seems to remind one of the small lake basins formed as a result of the glacial period (see *Iž'eŕ*), exept that it has an outlet. There was a village called *Semigrádovo* near the shore of this mire, and the name of the mire is to be regarded as a secondary derivation of the oikonym. Obviously the village name for its part would have been based on the existence of the natural object – analogically to *Kromnica* considered above. If this is so no mire should exist here, but rather some kind of water, because this spot once tempted people to settle down here.

This area belongs to a watershed with rivers and tributaries leading in different directions and having such Finno-Ugrian names as *Kíśma*, *Vóŕsma*, *Êgobyš (Egobyža)*, *Sáblja*, *Vorgovaš* (*Várgovoš*). In the centre stands the highest place in the whole Province, the *Tárxov xólm* (295 metres above sea level). Some of the names of the neighbouring villages suggest that these outlying parts were inhabited even at an early stage. Three kilometres from *Semigradovo* is a village called *Toščebýlovo* (< **Toščebol-ovo*?), which has, in my opinion, a variant of the basic element *-bol*(*V*), *-bal*(*V*) as an ending, forming settlement names of (sub)substratum origin (see *Jaxrobol* considered above).

I should like to believe that the original name of this watery place was something like **Semigra* (**Simigra*) < **Semixra* (**Simixra*). In this case we would be dealing with a Finno-Ugrian substratum place name root *Sem*(*V*)-, *Sim*(*V*)- meaning 'black' and one of the above-mentioned variants of the basic element -(*V*)*gra* < -(*V*)*xra*, meaning 'lake'.[38] This same place name root is to be seen, I consider, in the name of the parish of *Síma* and in the name of the river flowing through it, the *Símka*, and in the name of the River *Semiga* (*Simiga*) in the Vla-

[38] The oikonym *Semigradovo* seems to be unique within the Russian settlement names (see RGN VIII: 207). Folk etymological explanations concerning the name *Semigradovo* associate it with "seven towns" (Russ. *sem' gorodov*) or "seven hills, mountains" (Russ. *sem' gor*) (see also Matveev 2001: 39–40; cf. Ahlqvist 2000: 25). There do not seem to be any real grounds for linking this place name with the Russian lexicon (except its suffixation), and not even with personal names, nor is an explanation to be found in the transportation of a name.

dimir Province, all of which Vasmer (1935 [1971]: 399) associates with the Mari adjective *śimə*, *šimə*, *šim*, *šemə*, *šem* etc. 'black' (see UEW II: 758–759; SMY 9: 80–82; cf. WRG IV: 228; AVO: 34–35). The name of a stream, the *Simanga* in the Vladimir Province and the name of a mire, the *Simežá*, in the Jaroslavl' Province, next to the *Černogrjázka* mire (Russ. 'black mud [river]'), for example, belong to this category. Among the present Finno-Permic languages the meaning 'black' – instead of the original meaning of this stem, 'rusty' – is restricted to Mari; compare Komi *sim* 'rust; dark' (see UEW II: 758–759). The meaning 'rusty' would very well describe the essence of muddy waters containing a lot of limonite. However, did this root have just the meaning 'rusty' in the former Merya territory or was it rather 'black', as might be imagined on the basis of most of the loan translations registered? [39]

Quite a large number of loan translations or semicalques, in which two places next to each other or nearby have names of the same meaning but of different origin (from substratum and Russian), have been discovered during field work in Central Russia. Of interest is the fact that nearby to *Semigradovo* is a mire called in Russian *Čërnaja lúža* ('black puddle'). These two mires are connected by an outlet, leading from the mire *Semigradovo* to *Čërnaja luža.* This stream has today almost dried up but there is still some water in the spring, while there is more water also in the mire *Semigradovo* itself. It is possible that we could be dealing here with a semicalque of the Finno-Ugrian name (**Semigra*? < **Semixra*?) in Russian (*Čërnaja luža*). In the village of Čil'čagi in this locality we registered a Russian name for a mire, *Čërnoe bolóto* ('black mire'), but its referent remains unclear.

There are lake names in the neighbouring areas that with good reason could be regarded as parallel to **Semigra* (**Simigra*) < **Semixra* (**Simixra*). Kuznecov (1995: 86–87) separates the dialectal basic element *-gjaŕ* 'lake', which

[39] Tkačenko (1985: 179) reconstructs the Merya adjective meaning 'black' < 'rusty' in the form **šom* (compare the vowel unsteadyness in the variants of the limnonym *Siminó* under *Sumeŕ* and the double identity of the sibilant *s* ~ *š* in footnote 40). The connection between the 'black lakes', rust and iron ore has been expressed. According to Kuznecov (1991: 81–84; 1995: 86–87) a formation of iron ore has been discovered at the bottom of Lake *Šimgar* (*Šimozero*) ('black lake') in the Vologda Province.

It would seem to be a curious coincidence (?) that Bronnikova (2004) has confirmed the existence of iron oxide in the deposits of just those sites *Semigradovo* and *Sumeŕ* including *Kromnica*, where the outlet *Čërnaja luža* ('black puddle') has its source. Nevertheless, this fact still hardly offers any certain solution, because according to the report (Bronnikova 2005: 26–27, cf. also 12) iron oxide has also been found in the *Ošara.* Besides, the number of objects in question is much too small for drawing any conclusions about issues of this kind.

comes quite near to -(*V*)*gra* (cf. the cases treated above, variants of element such as -(*V*)*xra* ~ -*xar*, ~ -*xaŕ*) in the lake name *Šimgjaŕ* in the Vologda Province of the Veps territory. Analogical combination can be seen in lake names in the Vladimir Province – the limnonym *Sméxra* (*Sméxara*, *Sméxaro*, *Smexro*, *Sméxrovskoe ózero*) (< **Sime-xra*?) and parallel to it the name of the lake *Semaxar* (*Sémoxar*, *Sémxar*) (< **Sema-xra*?), for example (see also AVO: 22–23, 43–44).

The place name root in analogical cases has been interpreted as the adjective 'black'. In the Vologda Province the root *Šim-*, *Šem-* "of Merya origin" is regarded as 'black, rusty' in such hydronyms as Lake *Šimgärv* (*Šimgjaŕ*, *Šimgar*, *Šim-ozero*, **Šimo ozero*) or the rivers *Šima*, *Šimka*, *Šimaksa* (see Kuznecov 1991: 81–84; 1995: 66, 86–87; Matveev 1998: 102; Mullonen 2002: 320).[40] An analogical model can be seen in several of the lake names of Mari Èl – *Šeḿer*, *Šim'jar*, *Šim jär* etc. ('black lake') (see Voroncova & Galkin 2002: 365, 370; Vasikova 2003: 319; MarNII). However in the Mari territory in the Kirov Province there is a lake named *Simjer* (MarNII).[41] There is also a ravine named *Semigaŕ* (< **Semigra*?) in the Mordvin territory, in the Oka water course near another ravine, called by the Russian name of *Čërnaja Grjaz'* ('black mud') (GBO: 244). An analogical root should be seen also in river names of the Mordvin type: *Semilejka*, *Similej*(*ka*), *Semelej* (see also WRG IV: 228–229, and below *Sumeŕ*).

According to Bronnikova (2005: 32, 37, table 3), the *Semigradovo* mire seems to have been turned into a mire by the paludification of the forest soil about 500 years ago. Later (in June 2005), we learned from local informants that this same mire, named the *Semigradovskoe*, was badly destroyed by fire at the turn of the 1950s–1960s. Large holes were caused by fire in the place where peat was found, sometimes at a depth of 1.5 metres. Moisanen confirmed that this fact is not insignificant as far as the results of the analyses are concerned. If the surface layers had been destroyed, it may not have been possible to discover the whole truth about this place. Usually, in analogical cases the strongest evidence for the existence of an ancient lake are "hidden" in these uppermost layers.

[40] The double identity of the sibilant (*s* ~ *š*) might in this case be proof of the existence of different place name layers. In the territory of Central Russia a root of the forms *Sim*(*V*)-, *Sem*(*V*)- etc. ('black') would generally be expected to be more ancient than the form *Šim*(*V*)- with its variants (compare also the Mari forms *śimə*, *šimə* etc. 'black').

[41] Correspondingly, the lake name *Smer* (*Smeer*) in Mari Èl has been translated as 'dark lake' by separating the Mari *jer* ('lake') and, possibly, Mari *sim* etc. ('black') or Chuvash *sĕm* ('dark') (see Voroncova & Galkin 2002: 304; Veršinin 2005: 19).

Nevertheless, these conditions should, according to Bronnikova, predate the age of the mire and correspondingly the waters that are supposed to have preceded it. In any case, if there has been such a thick stratum of peat in this mire, there could not have been a lake for the last 1000–1500 years, as Bronnikova stated. Nonetheless, she opines that there could have been a lake even closer to the former village of Semigradovo (Bronnikova 2005: 32, 37, figure 20). The problem is that just this mire is named after the *Semigradovo*, and not the other.

The results of the biological analysis show that not only mire plants (cf. Bronnikova 2005: 31–32), but also those regarded at other sites as signs of a lake stage, have been found in this same place. Remains of reed mace (*Typha*) have been discovered at depths of 35–75 cm, 85–115 cm and in large numbers even at a depth of 230–250 cm, and club rush (*Scirpus*) with arrowhead (*Sagittaria sagittifolia*), both at a depth of 150–170 cm. These same plants have been found at *Iž'eŕ*, too. In the other cases cladoceran has also been regarded as a clear indication of a water basin. In the case of *Semigradovo* even more remains of *Cladocera*-species have been found than at *Kromnica*, *Vožerka* or *Iž'eŕ*, and equal amounts to *Ošara* (see Bronnikova 2005: tables 11, 12A–B, cf. with tables 1–2, 4–10). Those at *Semigradovo* thrived at depths of 20–50 cm, 170–190 cm and 230–250 cm. So, if the mire was formed only about 500 years ago, how can the existence of the remains of cladoceran or even reed mace at such depths be explained?[42]

The existence of cladoceran proves that there must have been open water in some quantity here at least in the time this animal lived. Thus Moisanen proposes that in *Semigradovo* there could have been a mire pool or a spring. Still, this is a place in which the water even today emerges from the soil. The water in the *Semigradovo* mire looks dark brown, as mire water usually does.

Particularly in connection with this case we should bear in mind that in the Volgaic languages, especially in Mordvin, the equivalent of the noun **järwä* 'lake', i.e. (Erzya) *eŕke*, (Moksha) *äŕkä*, *jäŕkä* can mean not only a 'lake' but also a 'pond' or 'river' (MW I: 379). In some Mordvin dialects (Erzya) *eŕke* is even a 'spring': e.g. *eŕke ved'* 'springwater'. Also, the Mari equivalents *jer*, *järv* have, besides the meaning of 'lake', the meaning of 'river' in certain dialects (SMY 1: 436). Correspondingly, Vasikova (2003: 282) translates the Mari name of the lake *Tum järv* 'oak pond', for example.

[42] According to Bronnikova, some finds of Cladocera and reed mace most possibly originate from Pleistocene water reservoirs: the sandy sediments where these finds occur are fluvioglacial in their origin.

It is interesting that in Russian every natural aggregation of water is considered to be a lake (*ózero*), with diminutive suffix added if the lake is very small (*ozer'kó*, *ozercó*). I should like to recall two lakes called *Beloe ozero* and *Čërnoe ozero*, the diameter of both of which is about 20–30 metres (see above under *Vožerka*). The very smallest "lake" of which I have ever heard in Central Russia is situated in the middle of a meadow called the *Sínij kámeń* in the village of Arsenovo in the Il'inskij County, Ivanovo Province (see Rogaleva 1992: 17). This "small lake" (*nebol'šoe ozerco*) has diameter of only 2–3 metres! Still it is known that even a holy spring, a well, is called "*Ozeročko*" in Russian (see Pančenko 1998: 72).

*Sumeŕ*

The mire, at the source of the River *Súmeŕ*, is situated in the Puškino County of the Moscow Province (object 5 in Map; see also AMO: 42; Bronnikova 2005: 33 ff., figures 22–24). This locality is already outside of the known limits of the Meryas, but belongs within the limits of, for example, the D'jakovo Culture. However, it is remarkable that one of the rivers referred to above, the *Jáxroma* ('lake river'), the name of which is usually considered Merya, commences next to the same mire territory from which the *Sumeŕ* flows – actually one of the tributaries of the Jaxroma starts at the opposite side of the same mire where the *Sumeŕ* begins, one kilometre from it (see AMO: 42; Bronnikova 2005: figures 22–23). The other substratum river names here (such as the River *Nagúša*, the ravine *Súrnyška*) are atypical of the Merya territory. The closest place names that I know having Merya indicators are the river names *Šimaxta* (*Šixmaxta*, 'id.' with *Šíbaxta*?)[43] at some 30 kilometres from this point to the north, and the *Véksa* at about 50 kilometres northeast – both still in the Moscow Province.

The River *Sumeŕ* starts from a mire from which peat has been extracted (see Bronnikova 2005: 33). Smolickaja gives this river the name *Súmeŕ*, the archival variants *Sumer*, *Sumerka*, *Sumrak*, and even *Som*, *Soimiŕ* (GBO: 199). It occurs in the form *Sumaŕ* and possibly as *Sumerki* (WRG IV: 439), as well. We have registered the name of the river also in the form *Súmmer*, which seems still more archaic.

I believe that this place name root *Sum*(*V*)-, *Som*(*V*)-, with its variations, is connected with the root *Sem*(*V*)-, *Sim*(*V*)- meaning 'black' discussed above. The

[43] *Šimaxta* has the suffix discussed above -(*V*)*xta*, -(*V*)*gda* and the root *Šim*(*V*)- 'black' (see *Pečegda* under *Ošara* and the *Semigradovo* above, and also GBO: 203; Matveev 1998: 102).

phonetic spectrum of substratum place names, especially of their vowel system, is well seen in the variants of the lake name *Siminó* in the Pereslavl' County of the Jaroslavl' Province. Officially, the name of this swampy lake is heard nowadays in the form *Sominó*, but it has the variants (mostly archival) *Seminó*, *Samino*, *Sumino* and even *Ščuminó* (see also Smirnov 1911: VI).[44] The form *Sominó* with its variants could be connected with a root of Mordvin type: cf. (Erzya) *čemeń*, *čeńiń*, (Moksha) *šämäń* 'rust; rusty' (see MW 1: 235; UEW II: 758–759).[45]

There are some analogical cases to this hydronym, for example, in the Vladimir Province, such as Lake *Šumerskoe*, or the River *Šumaŕ* (*Šumarka*), which has a connection to some lakes. In the Mordvin territory of the Oka basin there are parallels such as Lake *Šumerxa* (*Šumerxu*) and a lake named *Sumerxi* beside a village called *Sumerki*, in which surely the Mordvin variant of the basic element with the meaning 'lake' can be seen (see GBO: 227, 262–263). The river name *Šumarka* in the Jaroslavl' Province is also apparently parallel to the hydronym *Sumeŕ*: it takes its beginning from the same mire territory which is located beside a river named *Černuxa* (< Russ. *čërnyj* 'black') (see AJO: 88–89). Russian analogies to the 'black lake' model (*Čërnoe ozero* etc.) are approximately as commonplace as those of the 'white lake'.

The area of distribution of this place name root is extensive in the Finno-Ugrian territories, both past and present. There is an outlet called the *Suma* in the Svir' river basin which is connected to a lake named *Černoe* ('black [lake]') and a stream *Černyj* (see SGBS: 30). In other cases, the contrast of 'black' and 'white' can also be seen in the Leningrad Province, where the River *Sominka* empties into Lake *Vožanskoe* (see the root *Vož*(*V*)- discussed above; cf. also Voroncova & Galkin 2002: 306). A derivative of the lake name *Samró* (*Samra*) in the vicinity of St Petersburg, included in the name of a road *Samerskaja doroga* (< **Samer*(*o*)?), also sounds very similar to the hydronym discussed above (see WRG IV: 166–167). Of course, the possible connection of each toponym with this root has to be weighed separately.

[44] Compare with this case the phonetic variety of the name *Vožerka* ~ *Ožerka* ~ *Ižerka* ~ *Užerka* etc. mentioned above.

[45] Proposals that place names such as *Somina* are of Baltic origin (e.g. Toporov & Trubačev 1962: 208–209) fail to stand up to scrutiny, at least in the former Finno-Ugrian territories (see the approximate distribution of hydronyms with this root in WRG IV: 164, 350–351). The substratum place name root *Som*(*V*)- with its numerous variants originally had nothing to do with either Russian or any other anthroponym, nor even with the Russian name of the fish *som* ('wels, sheat-fish') (see Smirnov 1926: 47; cf. also Voroncova & Galkin 2002: 306).

On the basis of research carried out at the *Sumeŕ* site, Bronnikova (2005: 33–37, table 3) came to the conclusion that there are two sections with different datings in this mire territory. The main part with a thick layer of peat (about 7 metres) must have formed not less than 3000 years ago, while the perimeter of the mire was formed about 100 years ago after peat digging had begun. According to Bronnikova, there was no water basin in the younger part of the mire during the Holocene period. However, she thinks it theoretically possible that even in the Middle Ages a basin of water, not too big, could have been located in the ancient part of the mire, which was later severely harmed by peat digging and resulted in the formation of some small artificial lakes.

A further question arises concerning a very even site, where there were once very extensive spring floods. The lake stage could not be clearly established on the basis of the biological analysis. However, signs of increased dampness have been found there at depths of 45–65 cm and 160–185 cm (Bronnikova 2005: 35; Uspenskaja 2005). Still, the analyses do not seem to be so poor as far as the remains of typical water organisms or pollen of aquatic plants are concerned, as has been interpreted. It is significant that the pollen of some aquatic plants like that of the water milfoil (*Myriophyllum*) and pondweed (*Potamogeton*) have been found at the depths of about 20 cm, and of the shore plant reed mace (*Typha*) at depths of from about 20 cm down to almost 2 metres. Correspondingly, according to a biological analysis, reed mace seems to have grown in this place from the depth of 185 cm upwards. The remains of animals, i.e. aquatic – the *Spongia*, at depths of 65–160 cm, are also to be found there (see Bronnikova 2005: diagram 4 and tables 13–14). In this part of the mire Bronnikova (2004) has observed clay gyttja at depths of 7–25 cm that definitely should show a connection with a basin of some kind in the past (cf. Maljasova 2004). Finally, Moisanen considers that this place would visually appear to be a typical example of the site of an ancient lake.

The connection between the hydronym *Sumeŕ* and the name of some sort of a palaeo-water basin should be clear enough. Just that part of the mire, where the River *Sumeŕ* has its source is wetter as can be seen on the basis of the present flora, for example (see Bronnikova 2005: 34). Because the river in any case starts from this mire, it would be not of such great importance whether the supposed lake had been located immediately beside the source of the river – at any rate it is nowadays artificial (see Bronnikova 2005: 33) – or some 200 metres further away. Nevertheless, as it has straightened out the bed of the River *Sumeŕ* takes its dark brown water from the territory around that one and the same mire.

## In conclusion

Despite all the theoretical and practical problems with a complex study such as this, it was observed that besides toponymical evidence there are palaeo-geographical facts pointing to the existence of something like an ancient lake in most of these cases, i.e. *Kromnica*, *Vožerka*, *Iž'eŕ*, *Ošara*, and also very evidently in the case of *Sumeŕ*. Further, there are good reasons for also presupposing the existence of some kind of open water in the past in the case of *Semigradovo*.

Palaeobotanist T. Lempiäinen informed me that in general the vascular plant species of the objects studied consists of those that grow in the environment of mires, shores and water. The distinctly aquatic plants are water lillies (*Nymphaea*), yellow water lillies (*Nuphar lutea*), water milfoils (*Myriophyllum*), pondweeds (*Potamogeton*), arrowheads (*Sagittaria*), hornworts (*Ceratophyllum*) and naiads (*Najas*). In the shore water flowering rushes (*Butomus*), sweet flags (*Acorus*), many species of bur reeds (*Sparganium*) and many of the sedges (*Cyperaceae*) mentioned in the tables also grow, not forgetting several species of moss (*Bryophyta*), among others.

In all the objects we studied, excluding the *Kromnica*, at least one or two of the unambiguous aquatic plants named above have been found, and in the *Ošara* even five of them. However, even in the case of the *Kromnica* the remains of such sedges as *Carex teretiuscula*, the typical habitats of which are the shores of lakes and ponds, have been discovered at the depths of 117–129 cm (see Bronnikova 2005: table 2; FF: 60). Remains of this same plant have also been found at the *Iž'eŕ* and *Semigradovo* sites (see Bronnikova 2005: tables 7A, 12A; Uspenskaja 2005). The reed mace (*Typha*), also considered to be an aquatic plant in the pollen analysis made – but which grows typically in wet places and not necessarily in water, as reported by Lempiäinen – was found growing at all the sites studied (see Bronnikova 2005: diagrams 2, 4 and tables 2, 5, 7A, 9A, 12A, 14), and still grows in most of them.

According to geologist M. Moisanen, the majority of these places seem to have been most probably some sort of flood lake connected to a river system. Thus in most of the cases the material seems to be not exactly peat, not exactly gyttja. Also, the quantity of diatoms in the samples derived from the objects seems extremely small compared to Finnish lake sediments, which sometimes contain tens or rather hundreds of thousands of them in a sample of one cubic centimetre. Perhaps flooding may have been responsible for the existence of macrofossils and diatoms typical of water habitats in the different samples. However, in photographic illustrations of these places they appear at first sight

like ancient lakes, and particularly during floods they may well have been thought of and, for that reason, named as lakes.

On the basis of the evidence presented above it seems clear enough that the suffixal element *-er*(*V*), *-eŕ*, *-or*(*V*), *-oŕ*, *-ar*(*V*), *-aŕ* really can be distinguished in ancient lake names of Finno-Ugrian origin in Central Russia, including the former Merya territory – at least in relation to *Vožerka*, *Iž'eŕ*, *Ošara* and very evidently also in the case of *Sumeŕ*. It seems possible for well founded reasons to distinguish the element *Jaxr*(*V*)-, *Jagr*(*V*)-; -(*V*)*gra*, -(*V*)*gro* (< *-(*V*)*xra*, *-(*V*)*xro*?) meaning 'lake' in the case of *Kromnica*, nor is it without foundation to include the *Semigradovo*, as well (cf. Matveev 2001: 36 ff.).

Interpreting the results of radiocarbon dating seems more complicated. These results suggest considerably ancient dates, with the exception of perhaps the *Semigradovo* but in this case information concerning its burning has to be taken into account (see Bronnikova 2005: table 3). The fact that some of the mires, especially *Sumeŕ*, are covered with quite a thick layer of peat could give some indication of their condition in ancient times (cf. Bronnikova 2005: 37). Thus, some of the water basins could have existed for very long periods, sometimes with more water, sometimes becoming dried up (see e.g. Bronnikova 2005: 6 ff.).

It is well known that in the Little Ice Age of the Middle Ages many of the already overgrown water basins were filled with water. Thus some of these bodies of water could have existed as such not only during the Merya period, but also in the Russian (cf. Bronnikova 2005: 36–37). In any case, some of these ancient lake names could have been based, not only on the dialects of the Merya tribes, but also on previous language forms of Finno-Ugrian origin.[46] At any rate, even if dating by radiocarbon analyses had succeeded, the number of objects in

[46] The place name root *Vož*(*V*)-, as well as *Som*(*V*)- is also found in the northern settlement names *Vožbal*, *Vožbala*, *Vožbola* and *Sombal*, *Sombalka* (cf. Kuznecov 1991: 92–93; Matveev 1998: 98, 103; Šilov 2001: 19, 23 and Ahlqvist 2000: 29, 32) with the basic element mentioned above *-bol*(*V*), *-bal*(*V*), which could be of sub-substratum origin. Correspondingly, the roots of these oikonyms cannot be from layers younger than the basic element itself. Thus at least in these forms the two roots – especially *Som*(*V*)-/*Sum*(*V*)- with its very wide distribution – could turn out to be extremely ancient. (Still we must remember the prothetic *V*- in the root *Vož*(*V*)- that is not very old.) An analogical model for *Vožbol* ('white [village]') and *Sombol* ('black [village]') can be seen among Russian settlement names such as the oikonyms *Béloe* ('white [village]') (two parishes in the north of the Jaroslavl' Province) and *Čërnaja* ('black [village]') (a village in the Gavrilov-Jam County of the Jaroslavl' Province). Actually, in this same village, *Čërnaja*, a Merya settlement has been discovered (see Leont'ev 1996: 36). This complex issue will be considered in detail in another connection.

question is rather small for defining to which period these supposed ancient lakes and thus the related topynymical models could belong.

I should like to point out that this study has only been an experiment. It was a novel experience not only for me, but also the Russian party. Because of having no previous experience of this type of study, some mistakes were made. Nevertheless, I hope that this study will show how present-day methods of other disciplines, in this case the natural sciences, could be used, and what this would have to offer to traditional onomastics. Of course, with regard to interdisciplinary cooperation, not only palaeogeography and palaeobotany (archaeobotany), but also archaeology is a science most to be desired.

To my knowledge, palaeolimnological studies have usually been based on the requirements of other sciences such as geology, geography, palaeobotany, archaeology, while onomastics may have been used as an auxiliary science, for example, in choosing subjects for study. This time, the basis of the whole research was the onomastical information and its verification. Interdisciplinary investigation should benefit all the parties involved. It would be desirable in the future for this kind of research to become routine, and for all parties the new methods of these separate branches of science could be employed in the most effective manner, as proposed by Lempiäinen and Moisanen.

Of course, complex research using palaeogeography, palaeobotany or archaeology is suitable only for studying certain place name elements such as those of ancient water systems or some other categories of geographical objects with substratum names. In certain cases it would be possible to resolve substratum toponymics with more accuracy than before, to actually attain a completely new level in research, making possible more durable onomastical studies, and providing a stronger foundation than by employing the traditional methods of onomastics. This is the only way to verify with certainty hypotheses concerning of the existence or non-existence of, for example, an ancient lake.[47]

There may now be even more unresolved questions than there were at the beginning of this research. Do the more "trite" lake names with the suffixal

[47] One extremely interesting object for study would be the approximately ten rivers named *Vëksa*, *Veksa* in the Merya territory (see Ahlqvist 1997: 26–27; 2000: 19, 84). Thus the possibility of a relatively late formation of these rivers could be verified or abandoned. In the background is a hypothesis asserting that the rivers *Vëksa*, *Veksa* may have been formed relatively late from an earlier bay that existed in a place in which there are nowadays rivers. The meaning of the hydronym prior to the formation of the rivers, "vëksy" may itself be reflected in one of the possible etymological bases of this river name: the Mari appelative *iksá* with the meaning 'bay, cove, recess etc.' (see e.g. SMY 2: 34). An initial prothetic *V-* is to be expected in this kind of place name.

element -*er*(*V*), -*or*(*V*), -*ar*(*V*) etc. represent a more ancient layer than those with the basic element -(*V*)*xra*, -(*V*)*xro*, -(*V*)*gra*, -(*V*)*gro*? On the one hand the latter seems clearly more archaic (see also Popov 1974: 18–19), but on the other hand this model is connected more often to lakes that still exist, especially outside the Merya territory. Within the Merya limits the scattered lakes with this suffixal element have almost all disappeared already, but in cases of the analogical root *Jaxr*(*V*)-, *Jagr*(*V*)- many of the lakes still exist. Also of interest is the possible connection between one element or another and the sizes and other characteristics of the (ancient) lakes.

It is possible to obtain satisfactory answers to the questions posed, as well as to provide a general outline of the Central Russian substratum lake name elements, for example, but only by maximizing careful preparation and through the conscientious completion of a study of this kind. It would be extremely desirable to introduce the new possibilities outlined above into the field of onomastics. Some of the answers could turn out to be unexpected.

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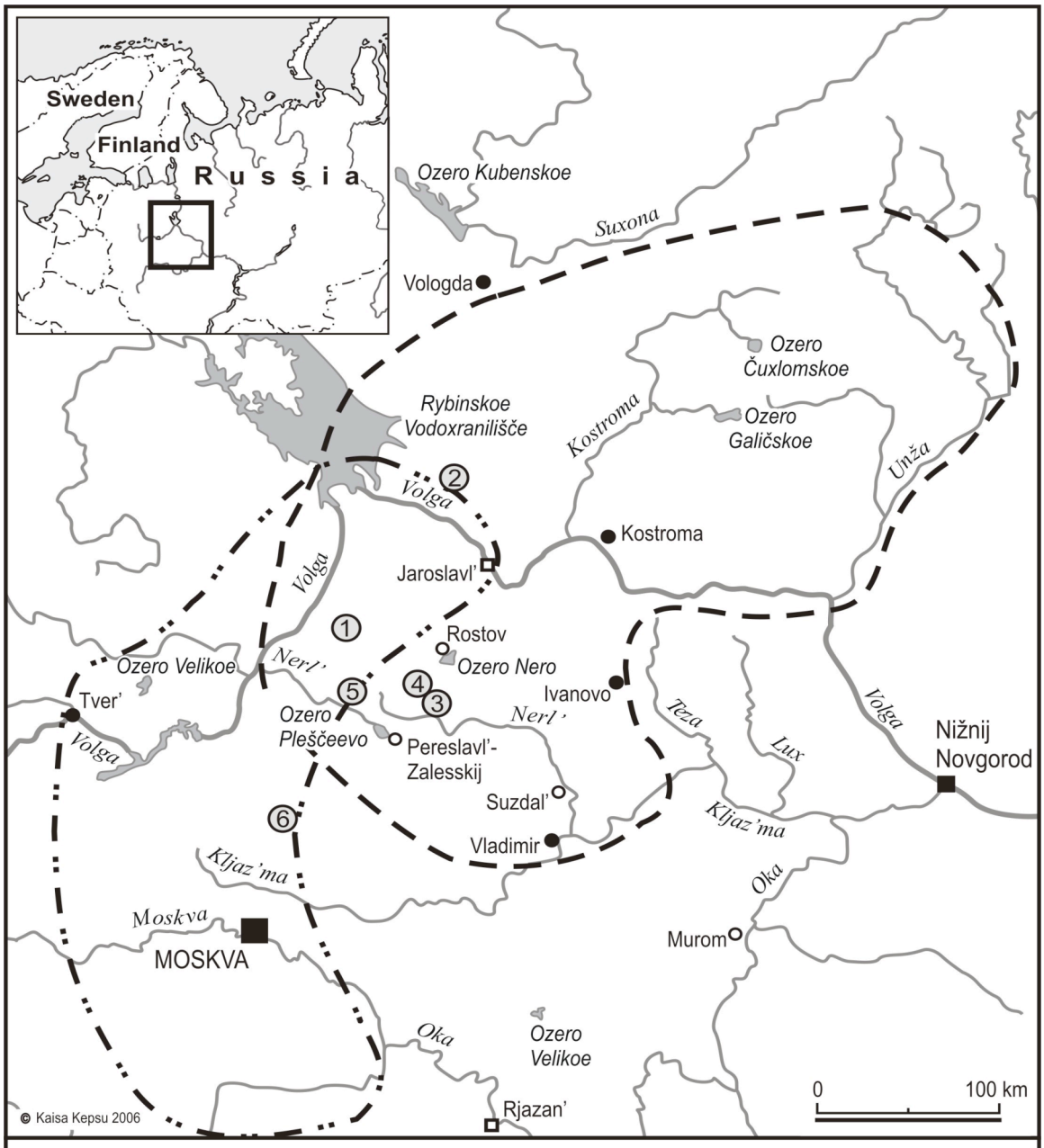
**MAP**




The Merya people according to Leont'ev (1996)
The D'jakovo culture according to Rozenfel'dt (1974) and Rjabinin (1997)

**Objects of the experimental onomastic-paleogeographical study:**
1. Kromnica – a mire, Uglič County, Jaroslavl' Province
2. Vožerka – a river (its low valley), Tutaev County, Jaroslavl' Province
3. Iž'eŕ – a mire, Rostov County, Jaroslavl' Province
4. Ošara – a low meadow (by a river), Rostov County, Jaroslavl' Province
5. Semigradovo – a mire, Pereslavl' County, Jaroslavl' Province
6. Sumeŕ – a river (its starting point from a mire), Puškino County, Moscow Province