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PORTAGES OF THE RUSSIAN NORTH: HISTORICAL GEOGRAPHY AND ARCHAEOLOGY

Abstract

This article summarizes the results of archaeological research concerning portage sites in the Russian North. Extensive surveys and field work indicate that the medieval portages were routes through water partings and related settlements which were either individual or in groups. The concentrations of sites from the eleventh to the thirteenth centuries, the vicinities of portages and the character of finds clearly show that the colonization of these micro-areas was closely connected with the development of a general system of roads and routes linking the North with the Ancient Russian Metropolia.

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River routes connected by portages at watersheds formed the main communication system on the Russian Plain in the Middle Ages. They are as typical of the cultural and economic potential of medieval Rus as the paved roads were an embodiment of the power of the Roman Empire. Much attention is given to portages in medieval documents, beginning with the famous description of "the route from the Varangians to the Greeks" in *Povest Vremenykh Let*, and continuing to the description of Yrmak's campaign to Siberia in the *Stroganov Chronicle* (*Sibirskie letopisi* 1907, 11, 276, 314). The amount of attention given to portages reflects their importance in the system of communication. They were both the most difficult sections of the routes and sites where travellers met and traded, and fees and taxes were collected. It is, however, surprising that although *volok*, the Russian term for portage, is well known in chronicles and other documents, the portage sites themselves, as objects of study and field work, have been hardly known at all by experts until recent times. The relevant literature consists of only a few articles (Burov 1975, 78–85; Chernov 1980, 37–38). These are valuable contributions, but they do not give any general impression of the appearance of a medieval portage.

It is a known fact that vast areas of the north of

Eastern Europe were referred to with the term *Zavolochie* (i.e. areas beyond a portage or portages) since the eleventh century. The term survived in the Land Cadastre Books (Vasiliev 1971, 103–109; Piszovye knigi Obonezhskoj Pyatiny 1930, 177; Piszovaya kniga Belozerskogo yuesda 1984, 171) until the sixteenth century, clearly pointing to the important role of portages that both separated the Russian North from the rest of Rus (owing to the difficulty of access) and connected far-off regions. In the North, the process of medieval colonization was strictly determined by environmental conditions, viz. river routes and the locations of portages. These defined the directions of colonization and the locations of settlements in various areas. Historical geographers have suggested a theory of two main water-portage routes connecting the Ancient Russian Metropolia with the northern areas. The northern route was along the Svir River, Lake Onega, the Vodla River, Lake Kenozero and the Onega River and further on to the Northern Dvina. The southern route passed across Lake Beloye to the Porozovitse River, Lake Kubenskoye, the Sukhona River, and the Northern Dvina. Both routes were studied by A.N. Nasonov with reference to written sources and maps (Nasonov 1951 98–116). The locations of the

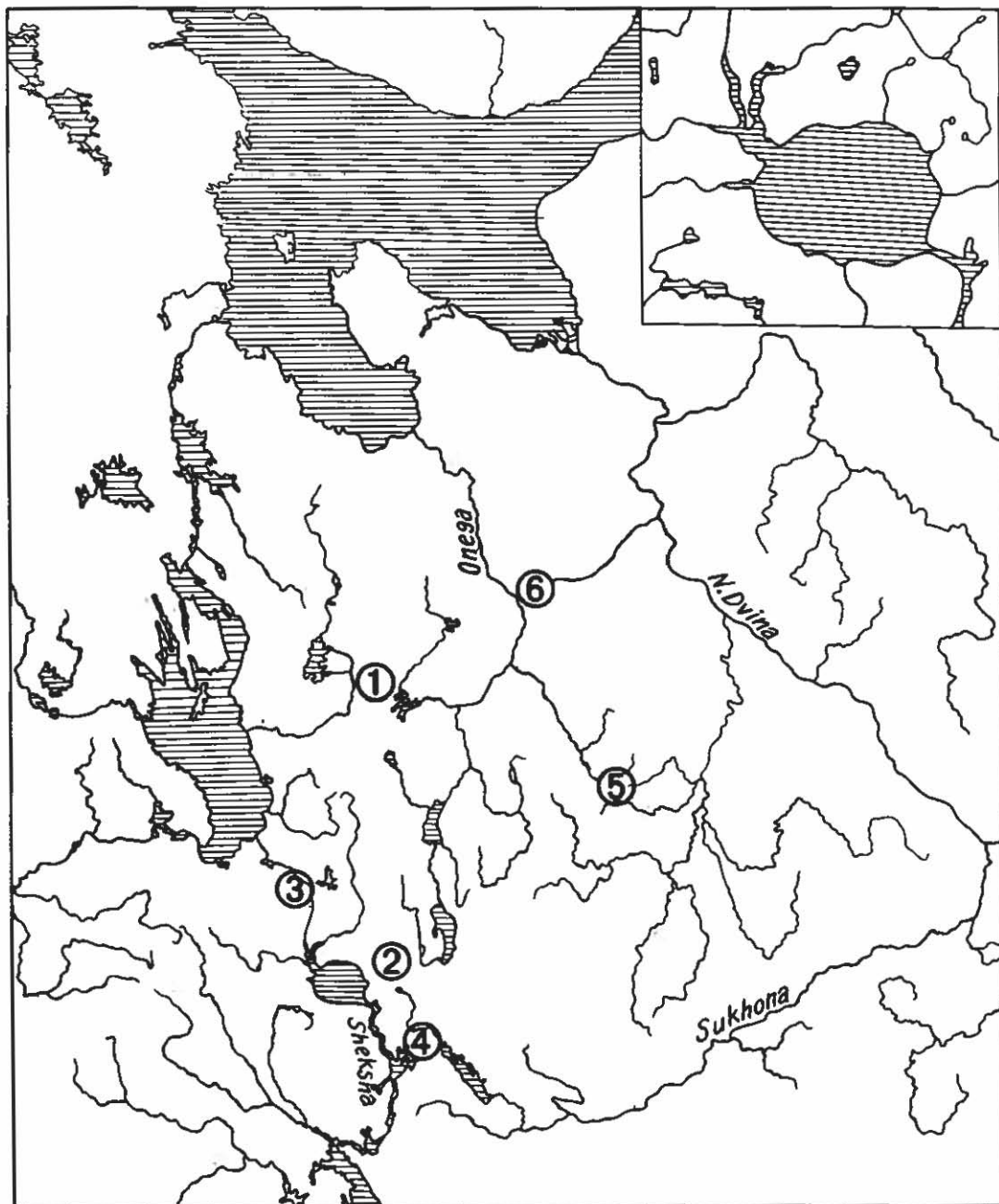


Fig. 1. Portages on the watersheds of Northern Russia. 1 – Kensky; 2 – Uchtomsky; 3 – Badozhsky; 4 – Slavensky; 5 – Moshinsky; 6 – Emetsky.

northern portages were thus identified without any archaeological field work. The available documents, maps and toponymic material appear to be quite reliable for establishing the locations of the portages. But insofar as information on these portages is mainly from comparatively late sources

(fourteenth-fifteenth centuries) we cannot be sure whether these reconstructions can apply to the Viking Age or early medieval times.¹

Between 1982 and 1992 the present author carried out field work involving the archaeological investigation of several micro-areas where portages

were located according to written sources of the fourteenth-seventeenth centuries (even earlier in one case). The task at hand was to obtain at least a general impression of the settlement pattern in the micro-areas of the portages and to define the archaeological sites that corresponded to the term "portage". As there are usually no precise geographic references to portages in the land documents, we attempted to locate them by estimating environmental conditions, place-names, the distribution and orientation of roads and archaeological sites.

Of the six portage sites investigated in the field work, three are in connection with the Svir-Onega-Dvina water route: the Kensky portage, connecting the basin of Lake Onega with Lake Kenozero and the Onega River; the Moshinsky portage connecting the Onega to the Pya River (a tributary of the Vaga); and the Emetsky portage, connecting the Onega with the Emtsa River (a left tributary of the Northern Dvina) (Fig. 1). The remaining three portages are in the Belozherie region, viz. the Slavensky portage on the route from Belozherie to the Sukhona, connecting the Sheksna river system with Lake Kubenskoye; the Uchtomsky (or "Red") portage connecting Lake Beloye and the Onega river system; and the Badozhsky portage (also mentioned in documents as *Gostin Nemetskiy*, or German Merchants' [Portage]), connecting lakes Beloye and Onega (Fig. 1). All six portages were in areas colonized by the ancient Russian population at a comparatively early stage. Experts agree that the portages were on the main routes along which early medieval colonization spread into these areas. Ethnic and cultural change in these territories can be defined as a gradual mixing of Slavonic and Finnic groups in different areas and with varying intensity.

The practical task of field work was to carry out a comprehensive survey of "portage areas", to prepare archaeological maps and plans of them, to recover datable materials through limited excavation, and to combine this data in a reconstruction of the general history of settlement at the portages. At both Slavensky and Moshinsky, extensive excavations of cemeteries were carried out, revealing the cultural character of the local population. The totally excavated cemetery of Nefedievo at Volok Slavensky, with its 112 graves, dates back to the eleventh and twelfth centuries, and is one of the largest burial sites hitherto excavated in the Russian North between Lake Beloye and the White Sea. The well preserved historical landscape of this area makes it possible not only to investigate the past settlement pattern and its development, but also to define the exact locations of portage routes

and roads. The Badozhsky portage, situated between the Kovzha and Vytegra rivers, is an exception. The original appearance of this site was completely changed during the construction of the Mariinsky water system at the beginning of the nineteenth century and later in the 1960s by the Volga-Baltic water route. As a result, a great number of archaeological sites were irretrievably lost.

Surveys show that none of the portages was in connection with monumental archaeological sites (hillforts or large barrows), or hydrotechnical constructions. But it was also discovered that the portage micro-areas were centres of early-medieval dwelling sites and cemeteries. This concentration of dwelling sites is particularly interesting in view of Late Iron Age and early-medieval zones of settlement, which in the Russian North mainly emerged in the valleys of the large rivers or on the shores of large lakes, but not on the water partings where the portages were located.

In the areas of five portages separate settlements were discovered dating from the first millennium BC to the first millennium AD. This proves that the routes across watersheds were well known to the indigenous population long before the Ancient Russian colonists expanded into these areas. There is no doubt that all six portages were "dry" sites where cargo was transported along roads by horses.

The Uchtomsky, or "Red" portage is situated between lakes Volotsky and Volgoye on the route from Lake Beloye to Lake Vozhe. It is first mentioned in the Beloozero Land Cadastre Book in 1585: "The residents of Beloozero town began to transport goods via a new portage, which had been made for their needs through the Pedma River to the Sheksna. But they must not use the new portage. They must deliver the goods through the old portage as before: along the Uchtoma River to Pertoozero across the Red portage to Uchtoma and then along the Uchtoma River to Beloozero". (Piszovaya kniga Belozerskogo yuesda 1984, 174).

There are two small rivers known as Uchtoma both on modern maps (scale 1:100,000) and on the cadastre map the Kirillov area, dating back to 1790.² One of these issues from Lake Volotskoe, named "Pertoozero" in the Cadastre Book; the other flows from Lake Dolgoye towards Lake Vozhe. Accordingly, the "old portage" should be between these two lakes, and the "new" portage, independently founded by the residents of Beloozero, connected Lake Dolgoye with Lake Palshemskoye, the source of the Pidma River. The map of 1790 shows the village of "VoloK Golovinsky" on the south-east shore of Lake Volotskoe. The village is at the shortest distance to Lake

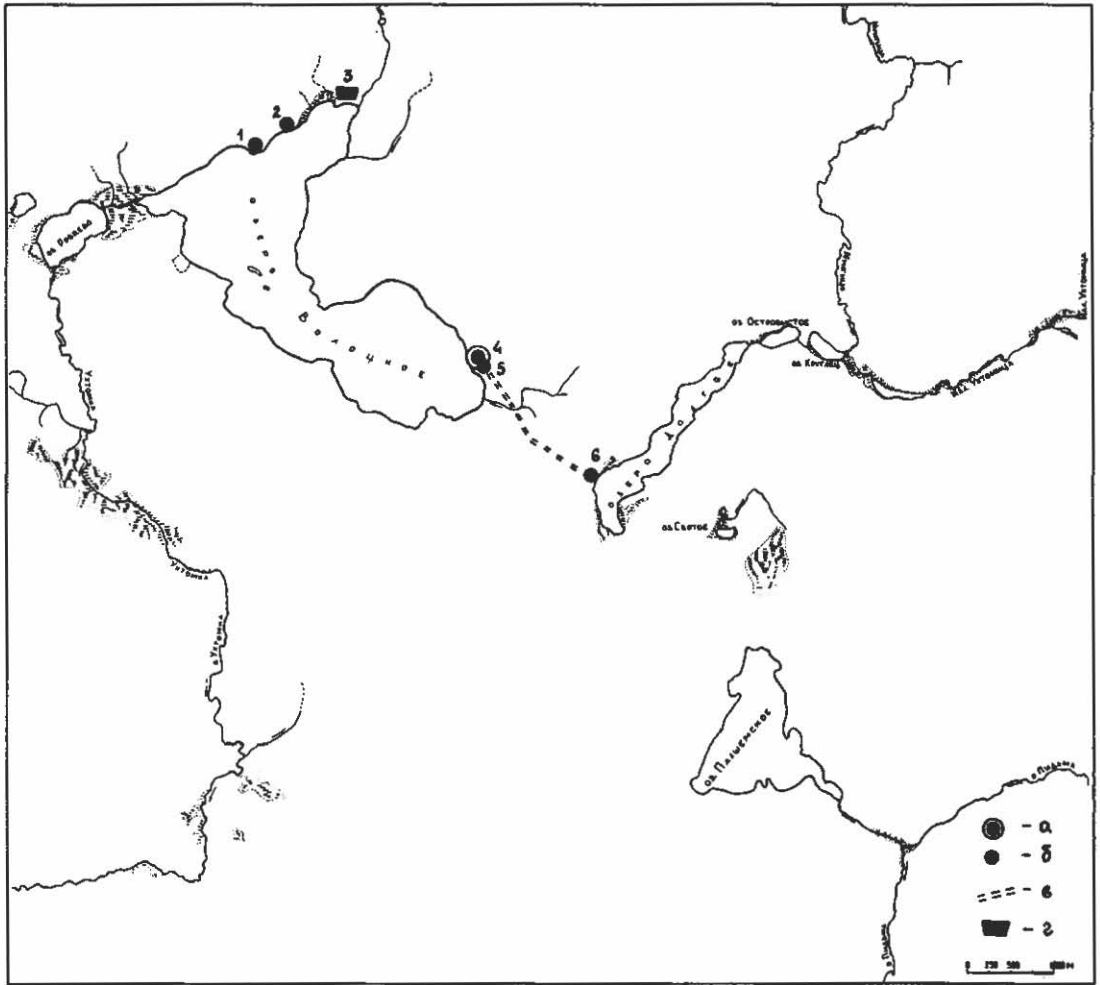


Fig. 2. Archaeological sites at the Uchtomsky portage. A – tenth-century dwelling site; Б – eleventh-thirteenth century dwelling site; B – portage road; Г – medieval cemetery. 1 – Pinshino III; 2 – Pinshino II; 3 – Pinshino I; 4 – Volk B; 5 – Volk A; 6 – Dolgoe ozero.

Dolgoe, which is not more than two kilometres. Present research shows that this village, with its expressive name “Volk”, has existed until recent times, and though deserted, its last remaining houses can still be seen. The old unpaved road is 1.8 km long and extends from Lake Dolgoe to the eastern part of the village. The road was laid on dry ground without slopes or rises. Still visible on the trees along the roadside are old blaze marks indicating the course of the road. The old route comes to an end on the shore of Lake Dolgoe at a point close to the water by a moorage made of aspen boughs and branches. The boat are used by local hunters and fishers.

Archaeological research around the Uchtomsky

portage revealed five dwelling sites (10th–13th centuries) and an undated cemetery (Fig. 2). All these sites are comparatively small and are situated by lake shores (four on Lake Volotskoe) on terraces one to four metres in elevation. Almost all of these dwelling sites have distinct cultural layers with dark coloration and a high proportion of pot sherds and fire-cracked stones. The sites are in the southern part of the village of Volk only a few dozen metres from the road across the water parting. The area occupied is small, comprising only c. 400 square metres. A limited excavation revealed two whetstones, an arrowhead and fragments of hand-made pottery, both rough and burnished (Fig. 3). Of special interest is a burnished pot with

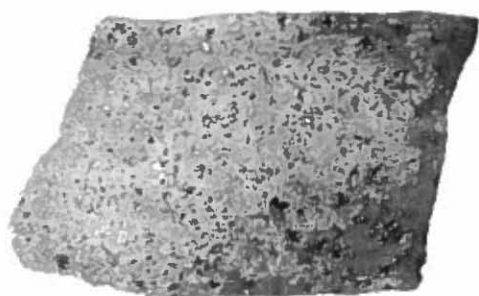


Fig. 3. The Uchtomsky portage. Hand-modelled ceramics from the Volok B site.



Fig. 4. The Uchtomsky portage. Lake Dolgoe with an old boat at the moorage near the end of the portage road.

a broad upper part and a narrow bottom, which is similar to pottery from the sites of the Volga Merya (Makarov 1991, 141–142, Figs. 5, 11, 12). A larger number of objects was discovered in the excavation of dwelling site A, including a bronze ring, a spindle whorl of grey stone, and the remains of two knives. Ancient Russian wheel-turned pots, as opposed to hand-made vessels, predominate in the ceramic assemblage. Covering an area of roughly 2,000 square metres, site A is the largest settlement in the vicinity of the Uchtomsky portage. Ceramics date the first occupation to the tenth century, this being followed by a second stage in the twelfth and thirteenth centuries. There is also a thirteenth-century site at the opposite, eastern end of the portage at the location where the portage road ends on the shore of Lake Dolgoe. Despite the rather common artifact assemblage recovered from the Uchtomsky portage, this micro-area is of value because of the distinct locations of the medieval sites and moorages at both ends of the road crossing the water parting (Fig. 4).

Volok Slavensky, located between the Sheksna and Lake Kubenskoye on the route from Beloozero to the Sukhona and the Northern Dvina, is known from land-ownership documents kept by the mon-

astery of Kirillo-Belozersky (Pavlov-Silvansky 1988, 153–162; Akty sotsialno-ekonomicheskoi istorii 1958, NN 44, 47, 68, 69, 159, 290) and on the basis of archaeological sites discovered and excavated in the 1980s (Makarov 1990a, 166–167; Makarov 1990b, 161–169). The location of the portage is precisely defined in a donation document from 1454: “Volok [portage] from Lake Slovenskoye to Lake Porozobitskoye” (Akty sotsialno-ekonomicheskoi istorii 1958, N 159, pp. 95–96). Both lakes can be found on maps, the distance between them being c. 4 km. The monastery documents make repeated reference to a *volokovaya doroga*, i.e. a portage road. This road terminated at the villages of Nikolsky Torzhok and Blahoveschenie, which were pogosts or “parish centres” mentioned in the Land Cadastre Books (Akty sotsialno-ekonomicheskoi istorii 1958, N 290, p. 223). The Land Cadastre Book of 1585 mentions that boats and goods were transported by horses across the portage along a dry road (Piszovaya kniga Belozerskogo yuesda 1984, 176–177).

In the central part of the medieval community of Volochok, in an area of c. 75 square kilometres in the vicinity Lake Nikolskoye (“Slovenskoye”),

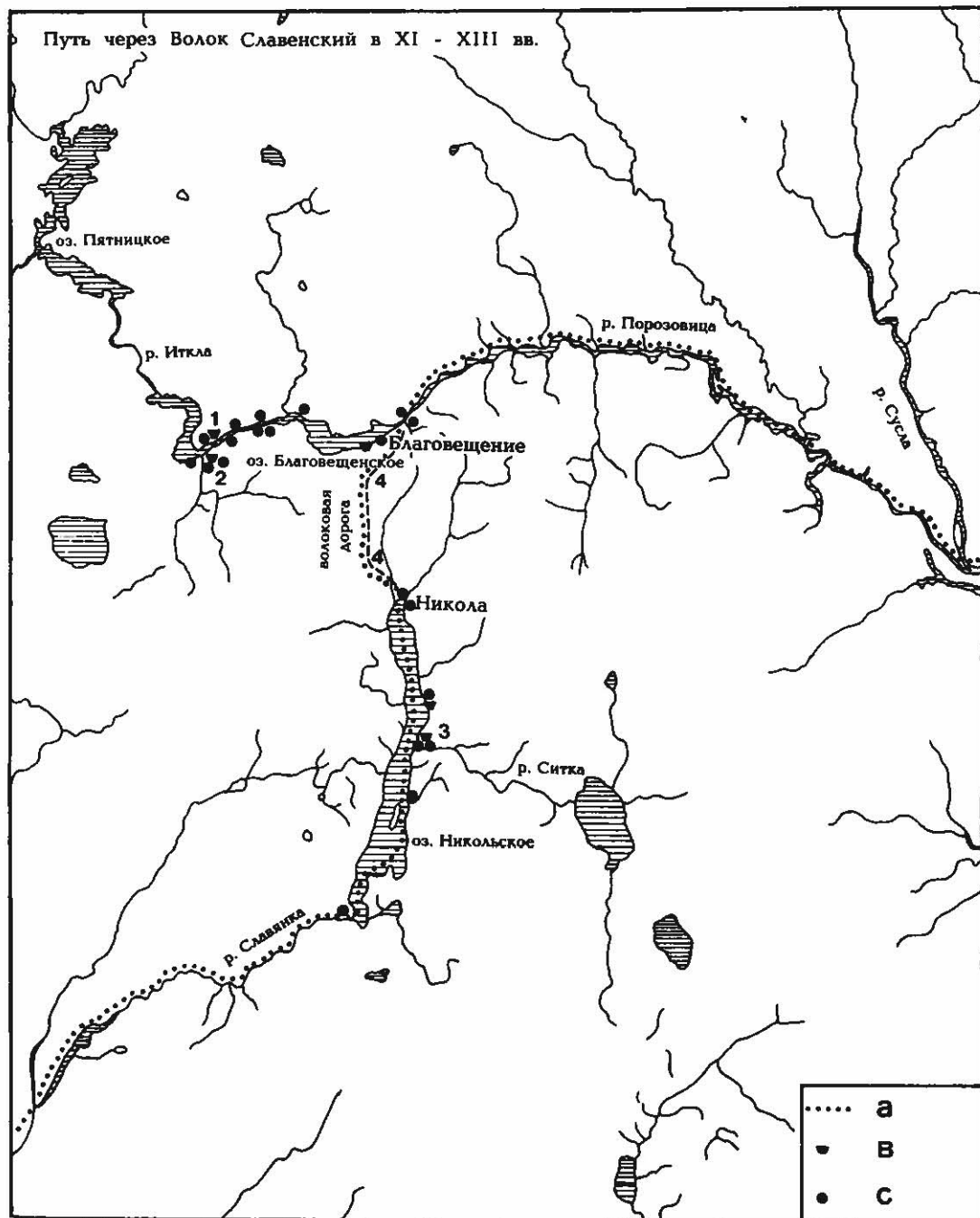


Fig. 5. Archaeological sites on the Slavensky portage. a – water route from the Sheksna to the Sukhona basin; b – early-medieval cemetery; c – early-medieval dwelling site. 1 – Nefedievo; 2 – Shujgino; 3 – Ust-Sitskoe; 4 – the portage road.

Lake Blagoveschenskoye (“Porozobitskoye”) and the Porozovitsa River, five cemeteries and 21 settlements were discovered, dating from between the tenth and thirteenth centuries (Fig. 5).

The area of Volok Slavensky was settled from the area of the Sheksna River towards the south. In the tenth century, a small settlement of the Beloozero ves’ (Vepsians) emerged at the southern end of



Fig. 6. The Nefedievo cemetery. Ornaments from burial no. 59.

the portage, and a cemetery with cremation burials came into being in the area. The dwelling site had been abandoned by the eleventh century, but at the same time areas on the northern (Sukhona) side of the portage came under occupation. Here, two dwelling sites with cultural layers of the eleventh century have been registered. The graves of the founders of the site, the first settlers of the portage at the northern part, have been excavated at Nefedievo (Makarov 1990b).

Ten settlements at Volok Slavensky revealed materials of the twelfth and thirteenth centuries. These fall into four local groups, each of which appears to have had its own cemetery. The oldest settlement group, with its centre at the Nefedievo cemetery, was abandoned in the twelfth and thirteenth centuries, but at the same time two new settlements emerged within a distance of 1.5 kilometres. During this period, groups of settlements appeared at both ends of the portage road, which is described in fifteenth-century documents. These were in the vicinity of late-medieval parish centres of Nikolskoye and Blagoveschenie. These are the largest dwelling sites; one has an area of approximately half a hectare, which is considerably larger than was usual at Volok Slavensky. It appears that changes in the settlement pattern of the twelfth and thirteenth centuries reflect actual changes in the use of the portage. In the eleventh and twelfth centuries the settlers tended to build their villages at some distance from the portage, possibly for reasons of security, but in the twelfth and thirteenth centuries the main settlements were in the immediate vicinity of the road.

The portage road probably began on the north shore of Lake Nikolskoye near a dwelling site dated to the twelfth and thirteenth centuries at a location where the local residents keep their boats even today. It can be confidently assumed that this road coincides with a new one between the pogosts of Nikolskoye and Blagoveschenie, marked on land-division maps drawn up in 1790. The road was on elevated ground between the lakes. The later relocations of roads and settlements pose problems for detailed reconstructions.

Collections of artifacts from the Nefedievo cemetery comprise ornaments of common Ancient Russian and Finno-Ugrian types, as well as a number of comparatively rare objects indicating close connections with the Baltic regions. These include wide plated arm rings with geometrical ornament, which are typical of Estonia (Tallgren 1925, 97–98), a penannular brooch terminating in dragon's heads, a round Scandinavian pendant of the Borre style (Fig. 6), and a small fragment of an oval Scandinavian brooch of type P51C or P52, which was used as a belt-fitting.³ These objects definitely show that Volok Slavensky was an important junction of the trade routes between the Baltic Sea, Ancient Russia and the areas around the Northern Dvina.

The Kensky portage, the first on the Svir-Onega-Dvina route, connects Lake Onega with Lake Kenozero and is described in detail in a Land Cadastre Book from 1563: "Kensky volok [portage] is in the pogost of Vodlozersky on the land of Nastasia on the Myshye Chereva (literally "Mouse Gut"), and it is via this portage that merchants from the Novgorod Land travel to the Zavolotskaya



Fig. 8. The portage road at Kensky.

Land, from the Zavolotskaya Land to the Novgorod Land in boats along the water route. And peasants of the Great Prince from the Nastasia volost' on the Myshye Chereva carry goods through this portage, charging a *denga* for each load... And now this portage is abandoned, and merchants do not use this way, they travel by a new way." (Piszovye knigi Obonezhskoj Pyatiny 1930, 177).

At the Kensky portage, which was situated apart from modern settlement the historical landscape has survived in its original state. Although the Land Cadastre Book of 1563 mentions that travel along the portage had ceased, it nevertheless remained in use for several centuries. In 1871 the folk-song collector A.F. Gilferding travelled along this portage (Onezhskie byliny 1983, 48–49), followed a few years later by the geographer I.S. Poliakov, who wrote a brief description of it (Poliakov 1882, 45–47). The portage began at the village of Zavolochie on the Chereva River, the left tributary of the Vodla; it crossed a forested and marshy watershed, continuing to the village of Yablonya Gorka (also known as Volok) and terminating at the Rezhma River not far from Lake Volotskoe (Fig. 7). The road was approximately six kilometres long. From Lake Volotskoe travellers had access by water to Pochezero, Kenozero and the Onega River.

The old portage road from Zavolochie to Yablonya Gorka has three chapels along it that have been perfectly preserved until the present (Fig. 8). The swampy sections were fitted with planks, and traces of these constructions are still visible. A long ditch (*kopan*), dug along the eastern side of the road and discharging into the Rezhma River, helped to dry the portage. Until modern times, hunters and fishers have followed an old tradition by mooring their boats on the river banks at both ends of the road.

The area around the Kensky portage, with its numerous bogs and outcrops of bedrock, was not suitable for settlement according to medieval standards. Despite this, two medieval dwelling sites near the road were discovered in 1979 by S.Z. Chernov. These were in the villages of Yablonya Gorka and Zavolochie (Chernov 1980, 37–38). The first site is dated with pottery to between the fifteenth and seventeenth centuries. The second site revealed pottery of the thirteenth and fourteenth centuries in test pits excavated in our field work in 1991. The Zavolochie dwelling site covers an area of approximately 2,000 square metres. It is on the bank of the Chereva River, near a moorage and the point where the portage road begins.

The Moshinsky portage is mentioned in one of the oldest available documents (the List of Country

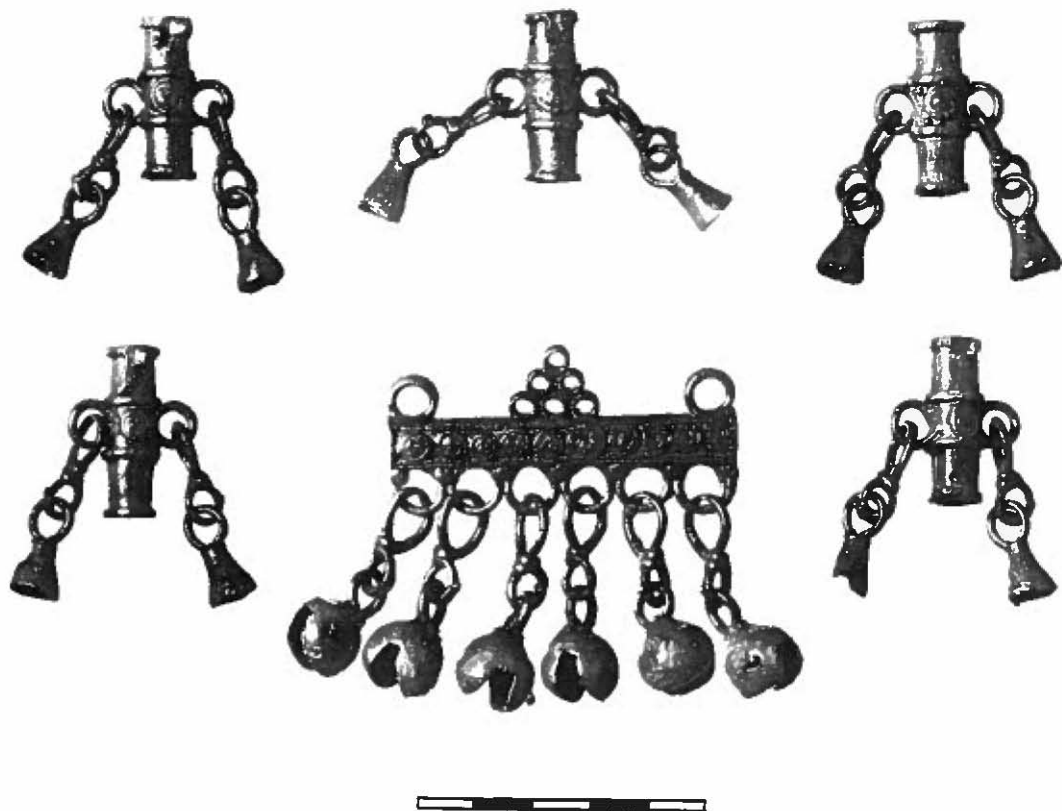


Fig. 9. Belt ornaments from female grave no. 1 in the Klimushkino cemetery at the Moshinsky portage.

Centres, drawn up in 1136–37; *Drevnerusskie knyazheskie ustavy* 1976, 148), thus indicating the expansion of Novgorod into the Northern Dvina region. It was claimed to have been located between Lake Moshinskoye (with access to the Mosha River, a right tributary of the Onega) and Lake Puyskoye, through which the Puya River flows connecting with the Northern Dvina. The distance between both lakes is about 35 kilometres; the land section of the road, between the Ochtoma River and Voyerzerka, can be reduced to 6–10 km. Unfortunately, neither land documents nor oral tradition can help to trace the exact direction of the portage route. The large road that connected the towns of Kargopol and Velsk in the eighteenth and nineteenth centuries crossed Mosha and Verhopuya, and had destroyed or overlaid the old road system.

At Lake Moshinskoye and Voezero, at the west end of the Moshinsky portage, four dwelling sites and five cemeteries from between the eleventh and fourteenth centuries were discovered in field surveys. The oldest are a dwelling site and a ruined cemetery near the village of Pogostishche that can

be dated back to the eleventh century. All the pottery recovered from the excavations at the site is rough hand-made ware similar to tenth- and eleventh-century ceramics from Novgorod and the Ladoga and Lake Onega regions.

Similar pottery has not yet been found in other areas of the Onega River and the Northern Dvina River. An axe with a broad blade, a straight upper facet and a semi-circular hollow in the bottom of the blade – a typical form of the tenth and eleventh centuries – was discovered in the ruined Pogostische cemetery. Some 50 inhumation graves and one with the remains of a cremation were excavated in the four other cemeteries. The majority of the graves were oriented east-west and contained relatively modest sets of artefacts: iron knives, firesteels, arrowheads, round filigree pendants, and bronze spiral beads. More richly appointed was a female burial at Klimushkino, with an impressive necklace of round pendants and a belt with a massive tubular pendant with small bell pendants and 15 cylindrical bronze beads with side loops and small pendants (Fig. 9). With reference to the

Novgorod chronology, the ornaments from this grave date from the second half of the twelfth or the thirteenth century with radiocarbon dates of 1031–1159.⁴ The other archaeological sites, observed on the western side of the Moshinsky portage, date back to the end of the twelfth and the beginning of the thirteenth century.

The general trend of settlement in this area was similar to that of the Volokoslavensky micro-area: colonization began in the eleventh century, becoming notably intensive in the second half of the twelfth or in the thirteenth century. A group of ornaments consisting of a cross pendant, glass beads, and a finger-ring inlaid with glass shows that the colonists were engaged in trade, permitting the flow of Ancient Russian craft articles to the north. The formation of a group of settlements within a certain distance of the portage route was determined by local geography, as the marshy land on the water parting between Lakes Moshinskoye and Verchopuyskoye was not suitable for permanent settlement.

The route from the Onega to the Emtsa is usually regarded as a northern branch of the Svir-Onega-Dvina route, permitting access to the mouth of the Northern Dvina without crossing the Vaga River.

Although the first written mention of the Emetsky portage is from as late as the seventeenth century (Akty istoricheskie 1848, N 22, 571), most scholars agree that the route from the Onega to the Emtsa came under Novgorodian control in the initial period of colonization. The only direct proof of this is the name of parish or pogost centre near the Emtsa River, mentioned in the list of Novgorodian pogosts of 1136–37. According to seventeenth-century documents, the portage road passed the Emetsky monastery on the Onega and the upper reaches of the Emtsa River. Oral tradition and the results of field surveys permitted a relatively reliable identification of the portage road.

The road began near the mouth of the Validovsky River, a right tributary of the Onega, crossed a marshy water parting, passed through the Krestovaya River and ended at a location with the name *Vinnaya pristan* ("Wine moorage"), where the Krestovaya and the Rezhma rivers join the Emtsa. The road was c. twelve kilometres long, but when the waters of the Krestovaya were high, the dry part could be half as long. The road from the bank of the Onega to the high bank terrace was laid along the slope of the Validovsky Ravine providing an incline convenient for the transport of heavy loads.

Medieval settlements have been discovered at both ends of the Emetsky portage. Excavations at the Pustinka dwelling site at the west or Onega end of the portage revealed an interesting set of arte-

facts consisting of the following: a horse pendant of the "Smolensk type", pieces of two plate arm rings with plant and geometric ornament, a belt fitting, pieces of bronze vessels or kettles, and an iron arrowhead (Fig. 10).

Finds of bronze scales fragments point to the trading activities of the local residents. The variety of wheel-turned Ancient Russian pottery distinguishes this site from contemporary settlements at Kargopol and Zaonezhye, where such pottery is quite rare. The Pustinka finds dates from the second half of the twelfth century or the thirteenth century.

Pottery dating from the Bronze and Early Iron Age was discovered on the opposite, eastern, side of the portage in the area of Mostishche. The datable objects of the eleventh-thirteenth centuries are not discussed here, but it is evident that at the time Mostishche was a site of temporary camps for travellers using the portage.

The medieval portages were thus roads through water partings and related settlement, either individual sites or in groups. The specific locations of the dwelling sites and their topographic connections with the portage could vary, but one of them was usually on the bank of the river or lake where the portage road began. The concentrations of archaeological sites of the eleventh-thirteenth centuries in the vicinities of portages and the character of the finds leave no doubt that the colonization of these areas was closely linked with the development of a general system of roads and routes linking the North with the Ancient Russian Metropolia.

Although a well-developed system of river routes encompassing the closely located upper reaches of rivers of different basins appears to offer a wide choice of routes from the central areas of Rus to the North, only a few portages, at the water partings of large rivers, were regularly used by travellers between the eleventh and thirteenth centuries. This conclusion finds support in a comparison of the settled areas of the "historical" portages, as mentioned in documents from the fourteenth to the seventeenth century, with the neighbouring areas of water partings in the Beloozero and Onega River areas. Theoretically, the latter were also suitable for constructing portages, but they were not settled. There is no doubt that "small" portages were used locally by hunters and fishers in the North. Some of them left no traces and can no longer be investigated, while others may be identified through place-names. But it appears that the "strict" system of the main portages was a powerful factor in determining the sequence of colonization in various regions and in the division of zones controlled by Novgorod and Rostov, the centres of the Ancient Russian Metropolia.

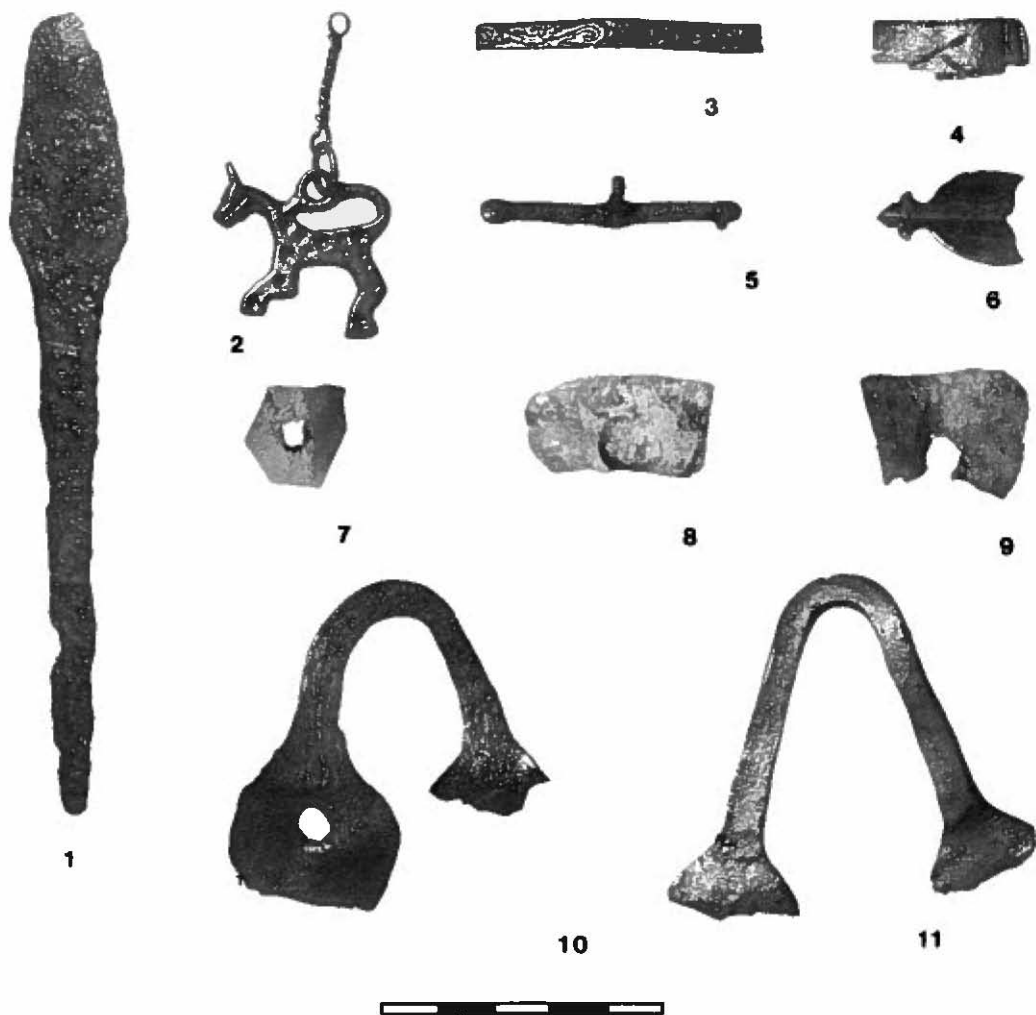


Fig. 10. Finds from the early-medieval occupation layers of the Pustinka dwelling site at the Emetsky portage. 1 – iron; 2–11 – bronze.

Concentrations of Neolithic, Bronze Age and Early Iron Age sites in the vicinities of historically known portages show that the routes through water partings were already discovered in prehistoric times, and their position remained the same throughout the millennia. The Ancient Russian colonists used the portages more intensively than their predecessors, but were not responsible for their discovery.

The problem of an initial date for the Ancient Russian colonization of the portages can be solved if we assume a marked correlation between settlement in a portage micro-area and the use of the portage for communications. Evidently, temporary mi-

gration through water partings by small groups of travellers was possible without any special settlements, and would not leave any archaeologically identifiable traces or remains. But it was inevitable for some settlements to appear when intensive migration set in. Consequently, the establishment of permanent settlements and cemeteries, dated to the tenth and eleventh centuries, in the vicinities of the northern portages and their notable increase in the second half of the twelfth and in the thirteenth century point to new trends in the utilization of portage routes. The most vital moment in their development was evidently in the eleventh century.

Portages serving east-west and southwest-north-

east routes can be easily identified, being characterized by more impressive archaeological sites than the portages on north-south routes. This can be explained as the result of more intensive archaeological field work at the portages of the Beloozero-Onega, Sheksna-Sukhona and Onega-Northern Dvina water partings than at the corresponding Volga-Sukhona and Sukhona-Vaga watersheds. Furthermore, the more numerous and detailed land documents from Beloozero indicate definite areas for research. However, the general distribution of many types of finds indicates a main cultural expansion from the west and southwest than from the south. This probably reflects the historical situation that prevailed between the eleventh and thirteenth centuries, when the portages of the Beloozero and Onega river areas proved to be more favourable for an initial penetration into the Northern Dvina region than the portages on the Volga-Sukhona watershed.

Both portages with the greatest concentration of medieval sites, Slavensky and Moshinsky, were colonized at practically the same time. Slavensky was on the Sheksna-Sukhona route, while Moshinsky was connected with the Svir-Onega-Dvina route, which suggests that colonization along both routes, linked with different centres of the Ancient Russian Metropolia, developed simultaneously.

At five of the investigate portages the earliest medieval settlements were on the western or south-western side, towards the Ancient Russian Metropolia. At all locations except Voloč Slavensky the western side of the portage was more intensively settled. At three portages the permanent settlements dating from the eleventh to the thirteenth centuries were situated only on the southwestern side. Archaeological sites at the opposite end may only indicate temporary camps. This settlement pattern can be explained if we take into account the fact that migration from the southwest to the northwest, from the centre to the outlying districts, was for a long time more intensive than in the opposite direction.

It appears that there was no general standard for a group of settlements at a portage. The total area of dwelling sites dated to the twelfth and thirteenth centuries at Voloč Slavensky is ten times that of the single dwelling site of the same period at the Kensky portage. Naturally, the value of the portage in system of communications was not the only factor influencing the formation of a settlement zone around it. The character of the landscape and its conditions for cultivation were also of major significance. Wide-spread trade and payments from travellers did not absolve the local population from providing themselves with food. The Slavensky

and Moshinsky portages attracted colonists not only because of their favourable geographical position on the water routes, but also because of their light sandy and silty clay soils which were suited to agriculture.

Manpower resources were limited in the habitation zones around the portages. It seems that even at the Slavensky portage the adult male population was not sufficient for efficient military control over communications or for the transport of vessels and goods across the watershed. In all probability, the role of the local residents was to construct a road across the portage, to maintain it, and to keep horses for the moving of boats and cargo. These innovations completely changed the conditions of portage transport, and saved the travellers' time, prevented risks and reduced the need for physical labour.

NOTES

- 1 A good example of a retrospective reconstruction of the portage system is a map published recently by Nosov, Ovsyannikov and Potin (1992, 15, fig. 14), showing the distribution of 10th-12th-century North Russian hoards with European coins and the position of the main portages.
- 2 Central State Archives of Ancient Documents, Moscow. Collection 1356, 77/3046, 7 1/3039. Maps of General Land Division, Kirilliv District, Novgorod Province.
- 3 The author is obliged to Dr. I. Jansson for identifying this ornament as a fragment of an oval brooch.
- 4 A radiocarbon analysis of the sample was carried out at the C-14 Laboratory of the Geological Institute of the Russian Academy of Sciences. Laboratory N 7279. Radiocarbon age of the sample: 920 ± 30 , calibrated limits 1σ 1031-1159, 2σ 1021-1207.

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