

Ethnolog- Bulletin of the Slovene Ethnographic Museum

Summary

An interesting article, from a presentation given at the international conference 'Extraction, shaping, trade and uses of millstones - an industry in the long term - in *La Ferté-sous-Jouarre*, 16-19 May 2002. The presentation shows the author's interpretation of the history of various hand mills, quern stones and other forms of Slovenia, and beyond, from the prehistoric period to just after the Second World War. A thorough description of the museum exhibition in the Slovene Ethnographic Museum, including written documents, photographs, and physical finds preserved within the museum collection, and draws upon other collections in various regions of Slovenia.

It was widely known that hand mills had a significant place in Slovenian culture and history, but this was 'only given a few sentences in Slovenian ethnological literature,' with ethnological collections of Slovenian museums only preserving a few examples. The Museum of Slovenian Ethnology had only two examples. This promoted the author, and curator of the museum, to decide to set up a small collection of hand mills, and, at the same time, collect data on their existential context.

That is how, in 1995, the Museum acquired a hand mill from Babna Brda, a settlement scattered to the southwest of the Zgornje Sotelsko hills, and in 1997, it obtained two more hand mills from the village of Grajenščak near Ptuj, on the banks of the Slovenske gorice, as well as a specimen from Sv. Trojica near Podlehnik, on the outskirts of Mokronog in Dolenjska. The newly acquired specimens, as well as the first of the hand mills that have been part of the collection since 1954, come mostly from northeastern Slovenia, from localities in the Štajerska region (Styria), largely from the hilly or mountainous edges of the Drava basin.

The article describes how the museum acquired its objects, including the first of the hand mills in 1954, and the newer items, including a hand mill from Babna Brda (a settlement scattered to the southwest of the Zgornje Sotelsko hills) obtained in 1995. Two years later 2 more hand mills were acquired.

The general origins of quern stones- including the possible evolution of various Slovenian terminology compared with surrounding eastern European countries, as well as further afield to French and Irish terminology- are explored in detail. The similarities between various terminology of hand mills, grains, types of bread, and locations where hand mills were kept, are detailed in extensive footnotes.

The author presents hypotheses from various historians over the possible origins of quern stones around the world, and links this back to examples in Slovenia where possible, noting that there is a distinctive lack of datable archaeological evidence of the origins of types, especially rotary querns. Evidence does, however, show this type of quern stone was particularly popular in the Roman period, with some evidence that this type of mill had been invented at Volsini, one of the most important cities of Etruria, according to one historian. Another historian attributes quern stones, with a rotating upper stone to be of Chinese origin, and that it 'proved its worth in *Germania*,' towards the end of the La Tène (Iron Age) period. Yet another historian suggests the origin of this type is most likely to be found on the Iberian Peninsula or, in the north of Punic Africa around the 5th century AD. The most widely accepted theory is that the rotation principle is one of the 'contributions of Greek culture to contemporary civilisation,' due to evidence from Greek animal powered mills, or 'donkey' mills. Greeks gave the upper stone the name 'donkey' and the earliest use of this term can be found in the works of Xenophon (400BC), and others. These evolved over time to create the extremely rounded hand mill, reminiscent of the inverted basket-shaped beehive

called '*Košnica*' (so-called 'beehive querns'). This form suggests a distinct evolutionary development from the tall, narrow 'donkey' mills. This type of mill, an older type than the thinner, flatter, disc-shaped stone mill, was introduced to Britain (England) by the Iron Age "B Folk" whose La Tène (Iron Age), culture, which drew heavily on Greek sources.

A historical overview of mills, in general, in Slovenia is explored from their first mention in Glina in the 9th century. They experienced a major boom in the 12th and 13th centuries, as attested by many written sources. Written sources from the 14th and 15th centuries mention the first floating mills and mills on boats. The first windmills were mentioned in written accounts one hundred years later. These sources describe the different types of mills in detail between the 16th and 18th centuries. They speak of large eight-wheel water mills, located on powerful watercourses, and small single-wheeled mills, located on rivers. In the 18th century the first Milling Regulations documents were produced, setting out the hygiene measures for the mills, rodent control, miller's remunerations and the maintenance of millstones. Stricter regulations soon followed, including adequate professional training and the freedom of customers to freely choose which mill they wished to grind their grain. By the end of the 19th century, 1500-1700 rural mills were operating in most of today's Slovenian territory, and many were modernised. The first roller mill was in operation in 1850 in Ljubljana, nine years later the first steam mill also appeared. Rural mills were gradually abandoned due to economic and social factors including rapid industrialisation. In 1952 milling in rural mills was banned by law. Wheat processing became a monopoly of the food industry.

The use of hand mills during this time is presented using various written testimonies. Comparisons are made between how hand mills were used across different regions of Slovenia, with some areas continuing to use hand mills for far longer than others. Hand mills were often still used in the 1920s up to and including the Second World War, mostly in isolated hamlets in high mountain areas bordering the Drava basin. The reasons for the hand mill's continued existence are noted as predominantly that these were much poorer areas, there were no water mills nearby, or other circumstances made it necessary to grind wheat at home. Examples of similar practices further afield such as Scotland- particularly Orkney and the Hebrides- hand mills were maintained where there were no water mills and no convenient lines of communication.

Written testimony primarily from the 1890s directly links hand mills to winegrowers, as well as its use for grinding grain for bread, across various regions in Slovenia, particularly in the lowlands, the southern hills of the Ptuj district.

The manufacturing sites of hand mills in Slovenia particularly the Rifnik quarry which operated until the 1960s, supplying millstones. Researchers studying using petrographic analysis found that millstones had been made on this site for hundreds of years, perhaps back to High Antiquity. Some are preserved in the Regional Museum at Celje. Other regional quarries and the differences between the geological properties of each type of stone used in hand milling is explained, and how this may have impacted where hand milling continued to a greater extent. Following on from the source of the stones used for hand milling, descriptions of precisely where hand mills were kept and used within households, usually in a vestibule or smallest room of the house, is explored in detail too.

The social aspect of the hand mill is an extremely important aspect of its role in history, and its role within the museum. It is interesting to see that gradually the hand mill became a byword for poverty in many areas of Slovenia. In some regions people remember that during the Second World War people started using hand mills again, after they had been long forgotten. Many testimonies from women who used to work these mills during this time were given, the author visited some of these areas and attempted to see some of these hand mills, but one in particular refused to show this to

the author, potentially to hide the misery associated with this object. Examples of this can still be seen today, an example is given of a newspaper article from 1997 showing Moroccan women holding a hand mill with the caption: 'How to escape from misery?' Social attitudes towards millers in Slovenia is also explored with many phrases being coined to show the high distrust many felt for millers, including those using hand mills to grind grain. Many millers had a reputation as thieves, rich people, and pranksters. There were many proverbs and phrases coined showing this, such as: 'innkeepers are crooks, millers are thieves, but we [the peasants] are good people,' 'Only an honest miller's hat can cure the disease.' It was often said that millers were numerous in swindling people whenever they could. This was a common theme in Slovenian folk poetry. Many millers were considered rich, and it was said that 'for a woman, it was best to take a husband on the farm or at the mill.' For many, milling was considered a privileged position, especially in terms of food.

Aside from the written sources and physical objects obtained by the museum, and elsewhere, there is a discussion focused on the role of women and girls in the hand milling process, with many first-hand accounts being included in the exhibition. Their gruelling work is highlighted and given some much-needed attention.

The role of women and girls in hand milling is explored in detail with anecdotes from Slovenian women who used to work these mills from when they were children. The gruelling work is highlighted with many children, particularly girls, being required to work using the hand mills from a very young age, often before school started. Some testimonies report that if the girls did not grind the grain quickly enough, or did not take it seriously enough, they were 'punished.' Many learned the different methods of grinding varieties of grain and were able to judge quickly which methods were needed, with many still being able to recall the different adaptations they needed to make, more than thirty years later.

From testimonies dating back to Biblical stories to during the Second World War and beyond, a clear image emerges of how women and girls were required to grind wheat all over the world, because 'the woman knew when she had to grind, and how to do it.' Testimonies of how these skills were passed down through generations in homes show how much of a significant role this was within communities is also considered. Millstones and various types of hand mills unearthed in archaeological sites establish a connection between women and these objects, including objects found in some Neolithic tombs unearthed in Brittany (England), Denmark, and elsewhere. The author argues that it is to women 'that the merit of daily bread, the essential survival of their family, falls most directly.' Some changes to hand mills, including modern electrical hand mills are noted, and how these changes may have made things easier for some communities, although many prefer the older varieties.

The article ends with a useful list of the main points explored in the rest of the text, and provides a very profound statement to just how important milling grain has been for thousands of years, and the importance of hand mills in various communities over the centuries.

Article Translation :

Our mother, give us today our daily bread...

On the manufacture, sale and use of the hand mill

Introductory word on the reasons for the history of the hand mill in Slovenia.

The rotary quern. Hand mill, domestic, household. Instrument for grinding wheat which essentially comprises of a fixed lower stone and a rotating upper stone, a central axis and a drive handle. A stroke of genius, an ingenious innovation which revolutionised the grinding technique and supplanted the archaic reciprocating mills^{1} wherever it appeared. A device which became widely established in Europe during the last five centuries AD. ^{2**}*

[1] Although the term “saddle quern” (literal French translation is ‘reciprocating millstone/ backward and forward motion millstone’) follows the synonym of mortar according to the Dictionary of Slovenian Language, I use it in this text to show the sense of the terminological and contextual differentiation between the terms mortiers “mortars”, meules à va-et-vient- “Saddle querns/ ‘backward and forward motion millstones’(French equivalent)” and moulins à bras rotatif “rotary querns, as suggested by Z. Modrijan, due to the lack of a diploma, and only for prehistoric hand mills without a rotation principle. It is known that the mills consisted of a large lower stone plate, flat or sunk in the shape of a saddle, and a small upper circular or cylindrical stone, which was rubbed with a back-and-forth motion to grind the wheat grains.*

*[2**] Various publications report quite different hypotheses on the origin of the hand mill whose upper stone makes a perfect rotary movement. There is a lack of datable archaeological evidence. The evidence does show, however, that this type of hand mill was particularly popular in the Roman period. Bennett and Elton cite Varro’s assertion based on what Pliny (116-27BC) said, that this type of mill had been invented at Volsini, one of the most important cities of Etruria; they then also cite (although this source is not the most reliable), Pomponius Sabinus, who introduced the invention of the hand mill to Cappadocia (see R. Bennett, J. Elton History of Corn Milling, I. Handstones, Slave & Cattle Mills, London/ Liverpool 1898, 132-33). Madureri attributes the hand mill with rotating upper stone to be of Chinese origin, and he even writes that it proved its worth in Germania towards the end of the La Tène (Iron Age) period (see F. Madureri, Storia della macinazione dei cereali 1. Tecnologia della macinazione, 1995, 19). Anderson, Duvauchelle and Agustoni believe that the origin of the hand mill is most likely to be found on the Iberian Peninsula, or in the north of Punic Africa around the 5th century AD. (see. T. Anderson, A. Duvauchelle, C. Agustoni. Carrier et fogerons gallo-romains à Châbles, Cahiers d’Archéologie Fribourgeoise/ Freiburger Hefte für Archaeologie, 3/ 200, 6). It would seem that Curwen’s interpretation is the most probable, namely that the rotation principle is one of the contributions of Greek culture to contemporary civilisation. He justifies it from the appearance of Greek animal powered mills, “donkey mills”. By use of metonymy the Greeks had given the upper stone the name ‘donkey’ and the earliest use of this term can be found in the works of Xenophon (400BC), Aristotle and Alexis (350BC). Curwen goes on to note that both animal-driven and slave-driven mills were products of an increasingly sophisticated and complex urban life, and that the extremely rounded hand mill, reminiscent of the inverted basket shaped beehive called ‘Košnica’ (so-called ‘beehive querns’). [See, S. Caulfield, The Beehive Quern in Ireland, in Journal of the Royal Society of Antiquaries of Ireland, 107/1977, 104-138.), whose form suggests an evolutionary development from the tall, narrow ‘donkey’ mills. This type of mill, an older type than the thinner, flatter, disc-shaped stone mill, was introduced to Britain (England) by the Iron Age “B*

folk" whose *La Tène* (Iron Age) culture drew heavily on Greek sources. (See. F.C. Curwen, *Querns, Antiquity, XI/ 1937, 137, 140, id., More about Querns, Antiquity, XV/ 1941, 15, 16*).

As evidenced by a few examples whose date is indubitable, as well as the first mentions discovered in ancient writings. A device which, in Roman times, remained the basic grinding device, particularly in the provinces and in the countryside, despite the existence of more advanced means of grinding wheat such as animal-drawn or hydraulic mills; an indispensable accessory of Gallo-Roman cuisine an instrument that could be found in 'almost every home' in Slovenian dwellings of the High Antiquity, and which – given the knowledge acquired at the end of the 1890s, i.e. the end of the 19th century. (s.,) 'was still generally used in Europe and Asia, from Japan to Ireland and from Norway to Ceylon' In Slovenian homes too, this instrument was used to grind cereals for centuries. Without the hand mill, more than one household would not have been able to bake their 'daily' bread or prepare their meals based on flour, the staple food of the population.

This important tool, this expressive component of the structures of the everyday life of peasants all throughout history, was only given a few sentences in Slovenian ethnological literature, and the ethnological collections of Slovenian museums only preserve a few examples. Until the spring of 1995, the Museum of Slovenian Ethnography had only two examples, both incomplete. This is what prompted me, while I was thinking about the essential objects and themes of the future permanent exhibition on the culture of tradition in Slovenia, to decide to set up at least a small collection of hand mills and, at the same time, to collect data on their existential context.

In 1995, the Museum acquired a hand mill from Babna Brda, a settlement scattered to the southwest of the Zgornje Sotelsko hills, and in 1997, it obtained two more hand mills from the village of Grajenščak near Ptuj, on the banks of the Slovenske gorice, as well as a specimen from Sv. Trojica near Podlehnik, on the outskirts of Mokronog in Dolenjska. The newly acquired specimens, as well as the first of the hand mills that have been part of the collection since 1954, come mostly from northeastern Slovenia, from localities in the Štajerska region (Styria), largely from the hilly or mountainous edges of the Drava basin.

The degree of ethnological research and archaeological research of hand mills in Slovenia

'Pohorje and Korbansko Pohorje, Haloze, Slovenske gorice and the Drava basin,' it is precisely these localities in which the first scientific paper of 1928, the work of Franjo Baš, ethnologist, geographer and historian, devoted to the windmill in Slovenia, cites as the localities where the hand mill persisted 'as a household mill in almost every rural house; on rainy days it was used to grind cereals by hand, except wheat.' Similar written testimonies can also be found later in two ethnological synthesis works, in the *Ethnography of the Slovenes*, in the chapter *Food of the People*, by Rajko Ložar, archaeologist, art historian and 'ethnographer,' and in *The Slovenian Folk Culture* by Vilko Novak ethnologist and Slavic. Novak's texts from 1960, although more recent, are more laconic. He speaks of the hand mill as the simplest tool for grinding grain and reports that 'it is still used today in Bela Krajina, in the vicinity of Boč and Donačka Gora, as well as elsewhere.' What is new in his writings, however, is the evidence of the hand mill's additional function 'Nowadays in Prekmurje, potters use it for grinding paint.'

Ložar's 1944 text is undoubtedly the most comprehensive regarding hand mills. He first states that in the past, rural housewives 'ground grain for bread and baking at home.' He mentions the two-stone Saddle quern millstones (backward and forward mechanism), 'čok' (choke?) and 'terač' (terrazzo?), which were the most rudimentary form of domestic mill, and then explains that 'there is no written evidence that our people ever used such an instrument.' Regarding hand mills, he reports that before

the First World War they were even more widespread 'in this region (Bela krajina), in Prekmurje, around Poljčane and elsewhere,' and quoting Hacquet, 'that by the end of the 18th century the hand mill was also generally used by the population of the Karst and Pivka. He reports that 'it was part of the household inventory, but not every household had one'; that is why in Bela krajina 'housewives who did not have one went to grind at the neighbours who could afford one' and that 'housewives used this mill to grind seeds or cereals, as and when needed, either because there was no water mill in the area or for other reasons that forced them to grind cereals at home.' Ložar's text also includes two images, one of a little girl next to a hand mill, an illustration by Jurij Šubic, first published in 1890, and a photograph of the so-called 'žrvni' mill in Bela Krajina. These two images are essential to the general representation of the hand mill (and as such, they were often reproduced for various purposes and inspired new representations figures 1, 2, 3, and 4).

In 1995, I completed the excerpts presented here, which clearly show the lack of research done on the Babna brda hand mill. In the general part of the latter, I also added Istria to the places or regions where there was evidence of the use of the hand mill, because a writing from the last quarter of the 19th century attests that 'most of the grain in Istria was ground using hand mills.' I also followed this testimony with the story of the person who sold this new acquisition from Babna brda to the Museum and who still used the hand mill in his youth. Description of his memories of the hand mill, where it was and how long it had been there, who used it for grinding, when and how it was used, what was ground and for how long.

Archaeological research on hand mills in Slovenian territory, as well as ethnological research, is not sufficiently thorough, although the archaeological collections of Slovenian museums are not without their objects of Neolithic saddle quern millstones*, as well as ancient and early antique hand mills; these objects have rarely been published. (16 –: *This situation is well illustrated by the catalogue from 1960, diploma work of the archaeologist Z. Modrijan op. cit. 7,8. Which deals with all the hand mills of Slovenia accessible in literature, at the time, there were 28; namely 12 ancient. 10 from the High Antiquity and 6 without dating.*) 'This is not generally published,' I was told, because in fact, these are not the most 'precious', or 'brilliant of agricultural finds at a given period.)

Within this framework of ideas, two works undoubtedly stand out. This is an article on the first results of the petrographic analysis of prehistoric and Roman hand mills in western Slovenia, research by Aleksander Horvat, geologist, and Matej Župančič, archaeologist, and the diploma thesis on the hand mill by Zvezdana Modrijan, archaeologist. From the petrographic analysis of fifty-nine hand mills in western Slovenia, the authors of the first work established the predominance of two types of rocks: A composite rock based on silica and igneous rocks (come second place in silica-based sandstones.) Based on their findings, they foresaw the possibility of long-distance trade practices, and they published the hypothesis that central Slovenia was, in Roman times, a 'millstone quarry centre' that supplied the eastern and western provinces. In his study (based on Slovenian and foreign literature available at the time), the author of the second work tried to summarise the general knowledge about hand mills, as well as the testimonial value of such examples from Slovenian archaeological collections.

Regarding hand mills among the Slavs, referring to Beranova, she wrote that 'they come to them from the Celts, on the western border,' and that their real spread can only be dated to the time of population migrations. Several dated examples of square-mouthed hand mill stones from various finds in Central Europe, from Slavic settlements, provide unmistakable evidence, for example, that the use of hand mills dates to the late La Tène [Iron Age] (Bratislava, Janikowo) in the 4th, 5th and 11th centuries. (Fichtenau, Vidnava, Wedderstedt, etc.), and go as far as the Spätkaiserszeit (Kablów, Sobotka, etc.) As a Slavic people, the Slovenes/ Slovenians probably knew the hand mill before the

settlement of the current Slovenian territory at the end of the 6th century, and before having become acquainted with the remains of Roman culture. Finally, the earlier use of the hand mill is proven not only by the existence of variants of this term, known to most present-day Slavic peoples, but also by its etymology (* [22] For example, in Croatian and Serbian, *žrvanj*, and Czech *žernov*, in Russian *žernov* (millstone). The term *žrmlje* comes from the old collective form, *žbrnbvl'e*. A related Old Church Slavonic; *žrbny*, rod, -bve 'žrmlje,' The early Slavic term 'žbrny' "rod", *-bve žrmlje is also similar to the related Latvian term *dzirnis*, *dziřnavas* - 'žrmlje', Old Prussian *girnoywis*, Lithuanian *girnos*, Old Hochdeutsch- *kuerna*, or, *curn* - 'millstone', Welsh *breuan* - 'hand mill', to the Irish *bra* - 'millstone' which are all formed from the Old Indo-European base. **guerll*- 'heavy, heavy stone, millstone,' [See M. Snoj, *Slovenski etimološki slovar*, Ljubljana 1997, 766-7 cf. Curwen's deduction in op. cit 1941)

Modrijan found that we do not know for certain that the examples date to the La Tène period (Iron Age) due to a lack of research and systematic publications of the habitats from this period. The hand mills of this time whose appearance can be 'fixed with certainty to the 1st century AD', she wrote, 'come mainly from rural settlements and military posts, but the hand mills of ancient cities are missing,' and that would not be an entirely realistic situation, although it is obvious that the Roman mills with animal and water traction 'did not take hold in our region,' (with the exception of one known animal-powered/ traction mill from within the vicinity of Eožana in Istria.) She reported that hand mills of the Early Antiquity period appeared mostly in consistently occupied posts, namely in military posts, permanent fortified settlements and in places of refuge, which were, according to the hypothesis of most authors, self-sufficient units with an economy based on pastoral livestock farming, and that in these settlements hand mills were 'evidently frequent' because numerous examples of hand mills were discovered in settlements that were the subject of more exhaustive research (in Rifnik, Vranje, Gradee pri Prapretno, etc.).

For the Late Middle Ages, Modrijan reported that 'we know nothing definite/ definitive about hand mills from this period' because only a small number of them are known in Slovenia and 'the research for remains of Slavic settlements is even less numerous.'

Brief overview of the geographical, historical and cultural picture of mills in Slovenia and the level of research relating to them

Unlike the case of hand mills, research on mills in Slovenia has reached a truly enviable level. For many, mills represented a technological challenge, an important socio-economic component and, for the region, an attractive and recognisable cultural element. They were particularly studied by geographers, historians and ethnologists. Among the most important researchers, we should mention (again) Franjo Baš, geographer, historian and ethnologist, author of a study on windmills, which dates back to 1928; Anton Melik, author of a discussion entitled 'Mills of Slovenia,' from 1953; Albert Struna, expert mechanic, author of the useless book 'Hydraulic Controls in Slovenia' from 1955; and Darko Radinja, geographer, who in 1979 published basic guidelines and a questionnaire for the study of water mills. In addition to these specialists, it is also worth mentioning the researchers of mills from certain Slovenian regions, including Janez Bogataj, an ethnologist who wrote a book on millers and sawyers in the upper Krka valley; Julij Titl, a historian who wrote a book on water mills and milling in Slovenian Istria; and France Habe, a geographer, historian and speleologist who published several texts on mills on the Pivka River. The following text is a very brief summary of the rich content of these works.

Slovenia was 'a dominant region of water mills.' These mills also reveal the varied nature of the country well, for 'there were a great many different types,' Downstream of the large slow rivers such

as the Drava and Mura, floating mills became established and became a feature of the Pannonian and sub-Pannonian world. The larger, faster rivers such as the *Kolpa*, *Krka* and partly *Sava*, had mills with large wheels and wide blades, even with movable wheels (mills called *na vago* or *vitlovci*) in some regions. The abundant and lively waters of the springs, which flow from the impermeable ground of the Karawanken and Pohorje massif, powered vertical shaft and horizontal wheel mills (so-called *tures* mills), while everywhere else Slovenia experienced the spread of vertical wheel mills (so-called *German* mills). Mills were generally more numerous on small, fast-flowing streams than on large streams, which were less conducive to their expansion, due to navigation, boating and rafting. The density of mills was greatest at the junction of flat regions, rich in cereals, and higher slopes. Mills were numerous on the edges of deep valleys and plains, at the foot of hills and on the edge of the *karst* world where millers ground for their own needs and for the neighbouring regions. Here and there real 'miller's valleys', arose, such as the one upstream of the Krka River, as well as the Rižana and Pivka rivers where the mills were lining up, so to speak.

Mills were first mentioned in Slovenia in the 9th century, in Glina. They experienced a major boom in the 12th and 13th centuries, when written sources from 1230 onwards already mention them more frequently. For example, at the end of the 13th century, a water mill was mentioned on the Strunjan stream, and at the end of the 14th century, written sources from the Piran region already reported fifteen mills operating downstream of the Dragonja River, on the Drnica, on the Fazan stream and on the Strunjan stream. Later, written sources from the 15th and 16th centuries are more exhaustive and mention the first floating mills and mills on boats, and a hundred years later, the first windmills; the mill at Vurberk Castle was mentioned in 1525. Written sources from the 17th to the 18th centuries describe the different types of mills in more detail. They speak of large eight-wheel water mills, located on powerful watercourses, and small single-wheel mills, located on rivers. It was in the second half of the 18th century, in 1770, that the first regulatory document for the establishment and operation of mills appeared, called the *Kranjska* (Carinola) Milling Regulations. It set out the hygiene measures for the mills and spoke of cleanliness and rodent control. It determined the amount of the miller's remuneration, which corresponded to one-sixteenth of a bushel of unmilled grain, and set out the maintenance of the millstones, etc. This regulation was followed by the stricter Carniola Milling Regulation of 1814, which added new provisions, such as the requirement of adequate professional training for millers, as well as the freedom of customers 'to freely choose the mill where they will grind their wheat grains.' By the end of the 19th century, 1,500 to 1,700 rural (artisanal) mills were operating in the Carniola region (i.e. in most of today's Slovenian territory). At that time, a few large mills already suggested the advent of the Slovenian milling industry. From 1800 to 1934, the mills were modernised. For example, the first roller mill was put into operation in 1850 in Ljubljana, where nine years later the first steam mill also appeared. At the beginning of the 20th century, there were already forty large artisanal and industrial roller mills in the Carniola region. The rural mills were gradually abandoned due to economic and social factors such as rural industrialisation, the compulsory delivery of flour after the Second World War, the introduction and modernisation of industrial mills. In the second half of the 20th century, economic policy only supported the development of the milling industry and in 1952, milling in rural mills was banned by law. Wheat processing became a monopoly of the food industry.

It is well known that in the Middle Ages, millers were among the few recognised craftsmen, authorised to practise their trade even when the towns were most opposed to the practice of trades in the provinces. Milling in fact had its logical place in the agricultural chain, and it was part of agriculture. At a time when each province depended on its own agricultural production, the transport of grain by poor roads to distant (municipal) mills sometimes took too long and proved costly.

The most common form of ownership is found in the context of large feudal estates. The lords' mills were usually located in the vicinity of castles (fig. 9-12) because they did most of the milling for them; however, once the milling for the feudal lord was finished, the miller also ground for the peasants and villagers. In addition to the castle mills, there were also mills that mostly belonged to the subjects. Here, a distinction should be made between craft or service mills and rural or domestic mills. Craft mills had up to four pairs of millstones and ground for their customers ('*mlevci*') both near and far, while rural mills usually had only one or two pairs of millstones and ground only for the needs of their staff.

Written sources also report that the castle mills 'had no monopoly, since they were fewer in number than the subjects' mills', and 'that they had no preferential right obliging the subjects to bring their wheat to the mill of the landowner.' It is therefore very likely that in the Slovene territory, the feudal lords did not enforce laws as restrictive as those in force in other regions of medieval Europe, such as (for example) in Brittany (England) and France. These laws prohibited peasants from using any mill other than that of the lord to whom they were subjects; only there could they have the prescribed and taxed quantity of wheat ground. The use of hand mills was strictly forbidden. In England, the castle miller would have had the right to seek out hand mills in the houses of the region and to destroy them in order to avoid being left without the prescribed taxes.

As for the first seven decades of the 20th century, and based on the findings of some researchers, we can summarise what we still know about Slovenian mills and millers as follows:

Given the data on the workforce of the mills, there were, one might say, three forms of milling operations: mills where the owners hired out the workforce; mills where the owners themselves or members of their family community were the workforce needed for the operation; and the combination of the two. The constant relationship between the millers and the community that inevitably depended on them for grinding wheat, until the appearance of domestic electric mills after the Second World War, was the origin of the main descriptions attributed to the millers. They had a reputation as thieves, rich people, weird guys and pranksters. The first two descriptions are particularly taken up by many proverbs and sayings about millers. In the valley upstream of the Krka River, the writings report for example: - As many millers, so many thieves. - Only an honest miller's hat can cure the disease. - The more millers, the less flour. - Innkeepers are crooks, millers are thieves, but we (the peasants) are good people. - The miller and the devil have a bone to pick. The millers' fortune made Cortes grumble; it was in fact largely based on the simplest and most frequent method of payment, in kind, for the miller's services, namely by taking the milling or the bushel. Taking their measure, the millers, it was said, were numerous in swindling people whenever they could. *[[49]- Millers with a proverbial reputation as thieves and crooks, are not an uncommon theme in Slovenian folk poetry. Štrekelj's collection of poems is famous for its verses about the miller and death coming for the miller-sinner: 'And now you go with me, miller, / To (A) God you would powder/ for the great measures you have taken.'* See: *Štrekelj, Slovenske narodne pesmi I. Ljubljana 1895, 98, 393-396*). Otherwise, the measure corresponded to 12 to 15 percent of the wheat or 10 to 12 percent of any other grain brought, or to simplify, 1 measure of 1 kilogram out of 10 kilograms of grain. And the milling brought the millers quite considerable quantities of wheat and flour, which were used to feed the pigs and fatten them for sale, which ensured the mill a permanent income. This represented an interesting economic symbiosis between milling and pig breeding. The quality of the pigs raised at the mill, and therefore highly valued, is well suggested by a proverb from the valley upstream of the Dragonja River, which says: 'The pigs of the miller and the young girls of the parish are not for poor peasants.' The rich millers were therefore also an interesting match for marriage. It was customary to say that 'for a woman, it was best to take a husband on the farm or at the mill.' The

milling families certainly had a privileged position in many respects, especially in terms of food. They had permanent stocks of seeds and flour for bread, and they could always prepare dough (from corn or buckwheat flour), they always had fodder for the pigs and therefore meat and lard. All year round, they could afford flour-based dishes and bake white bread permanently or frequently. White bread had to be a status symbol at least until the second half of the 20th century.

The remote world of the hand mill; its manufacture, sale and use

Where the hand mill has remained, the story is different in many respects. At the end of the 1920s, when Bas reported that the hand mill was still used in isolated hamlets in the high mountain and hilly areas bordering the Drava basin *gora*, he cited fundamental geographical reasons for its continued existence: a random permanence of water, climatic, geological and soil composition conditions such that milling had not even been able to develop as a craft, and routes of 'communication made very difficult by the configuration of the terrain.' A few years later, Lozar noted succinctly that milling was carried out by hand 'either because there were no water mills nearby or because other circumstances made it necessary to grind the wheat at home.' Very close to these two references, we find for example for Scotland (Scotland Islands, Orkney and Hebrides, Ross and Inverness) the mentions of Bennett and Elton citing Mitchell's observation that hand mills were maintained where 'there were no water mills and no convenient lines of communication.' However, Bennett and Elton introduced a new, social component: "The apparatus is used only by poor cottage dwellers in remote areas and must be cheap to manufacture."

Can we speak of the same social foundation for the hand mill in Slovenia? Around the Drava basin, more specifically in the Slovenske gorice, Haloze, is on the hills of Zgornja Sotla, in Kozjanski or Srednje Sotelsko. Everything indicates that the answer is affirmative. The last region mentioned, part of Štarkerska (Styria) to the east of the Posavje hills, remains away from the communication routes; it is considered to be economically underdeveloped. There, scattered housing dominates, with grouped hamlets and isolated farms geared towards mixed farming. The property is fragmented, mostly consisting of small and medium-sized farms and thatched cottages. The Slovenske gorice, hills between the Drava and Mura rivers, are a region of vineyards and fruit growing (fruit growing) combined with some agriculture and livestock breeding. The habitat is scattered, the agricultural land is very fragmented and here small properties predominate. The Haloze region forms a very fragmented whole to the east, to the west it is lower, occupied mainly by scattered housing at the top of the hills. Vineyards and fruit trees occupy the sunny slopes, other productions are rarer, and livestock breeding is not very developed. The peasant property is small and fragmented, crafts practically non-existent. It is attested that around here the bourgeois and the rich peasants of Ptujsko polje appropriated vast areas of the best vineyards worked by winegrowers in the 19th century. *(62) Real peasant proletarians who, in Haloze and in the Slovenske gorice, constituted with the day labourers, the small peasants of the cottages and hovels, the great majority of the population.

In 1890, an interesting written testimony about the hand mill directly links the winegrowers to this device: 'Hand mills are widely used in the lowlands of the judicial districts Šmarje (St Marcin), Kozje (Drachenburg), and Rogatec (Rohi'sch), in the southern hills of the Ptuj district, and in almost all cantons of the lowlands. The hand mill is placed in the hiša (Wohnstube), the main room of the house, or in a small room. It consists of two grinding stones of modest diameter and thickness and is operated by hand. When the peasant woman (the winegrower's wife – Winzerin) has prepared the fire and placed the pot of water on it, she starts to grind corn flour for breakfast – kaša or dough – or also for a loaf of bread.

[[62] The system of agricultural labourer winegrowers falls into the category of subjugation relations contracts, although it includes some categories of the day labour and rental system. These winegrowers were agricultural workers who lived in their own home and worked the employer's vineyards, the vineyard of the 'winegrower' (sometimes also other lands), the latter, as lessor, gave them the use of a modest dwelling with adjoining buildings, some agricultural land and livestock; he paid them for certain work either with a salary in money or in kind or both. Due to the particular conditions (economic difficulties and consequent fragmentation of properties) that prevailed in Styria and more particularly in Haloze, small farmers and poor peasants, even before their emancipation (1848), already constituted the first agricultural labourer winegrowers. By selling their properties to bourgeois or wealthy landowners, many became winegrowers and agricultural workers on the land that had previously belonged to them. See; M. Ramšak, Zivljenjski pogoji viničarjev v Svečinskih gorica pred 2. Svetovno vojno in Ethnolog 6 (I.VII) Ljubljana 1996. 296-297.)

The recently recorded, determined commentary of the former miller of the Šentjur roller mill near Celje on the use of the hand mill by the lower social classes is quite telling. In the surrounding localities, those who ground wheat in the hand mill were only 'more likely those from the cottages, those who ground one or two tubs of corn – it was not the peasants who came to the mill with oxen.' According to the miller Miroslava Ferlež (born in 1915), 'these rather poor cottage dwellers' were 'helpers' in the nearby abandoned quarry for hand mills and millstones in Rifnik. There 'we worked a lot and earned little', and therefore those who went to work there were the poorest. 'After the Second World War, unemployed people, formerly the inhabitants of the cottages, were given the opportunity to break stones,' adds Stanko Zupanc (born in 1927), current owner of the property where the Rifnik quarry is located. His grandfather did not work there either.

Quarries, stones, quarrymen...

The (afore)mentioned Rifnik quarry, which operated 'until the sixties,' and the nearby Podgorje quarry under Resevna called '*Slomšekov pruh*,' (Pruh – from the German Bruch – fracture, break or Steinbruch – quarry) supplied millstones to nearby and more distant settlements. In the second, as the miller Miroslava recalls, the 'farm boys' (the sons of the peasant Slomšek) in 1936 and probably later worked and manufactured hand mills made of Rifnik stone, the *rženjak*, especially from Pohorje (and for millstones, from all over former Yugoslavia and Austria). According to the accounts ([[67]- from a discussion with archaeologist Darja Pirkmajer, who has been leading the archaeological research in Rifnik at the Regional Museum in Celje since 1982), 'folk tradition reports that they have been made here since ancient times.' This possibility is eloquently supported by the appearance of the hand mills from the High Antiquity preserved in the Regional Museum in Celje, unearthed in Rifnik (which petrographic analysis would certainly support), and by the view of the abandoned quarry; the silent series of 'columns' of vertical and concave stones that testify to interventions in the rock over many years, perhaps centuries. (Fig. 14-17). The file from 1825, from the Franciscejski land register of the municipality of Rifnik (Reicheneegg) attests to at least one hundred and seventy-seven years of the existence of the Rifnik quarry. This has been identified using the 'legend of the conventional signs of the land register.' (see fig. 18).

Near Rifnik, where the locals and those from Poliorje came to get hand mills. Donačka gora (Donačka mountain) supplied the locals from the Drava basin, especially from Haloze, with hand mill stones. 'They went to get the millstones somewhere below Donačka gora,' I wrote when I was collecting hand mills and their stories in Stari grad near Makole and – at the other end of the Drava basin – in Grajenščak near Ptuj. This is confirmed by the descriptive lexicon of the place from 1937, especially in the passage on the village of St. Jurij located on the southern slope of the mountain mentioned (Donačka gora): 'As a local craft, the manufacture of hand mills is developed (stones for hand mills)

from silica extracted from Donačka gora. These hand mills are used at home and are sold in the Drava Banat in Zagreb and Varaždin.' The new descriptive vocabulary of the place from 1976 still indicates the presence of this domestic craft in this place 'until the Second World War', while the recent account by Jakob Polajzer (born in 1943), the last companion of the late master Vinko Kitak (1917-2000) from the village of Donačka Gora, has the production of hand mills continuing until 1969. It was then that the agricultural cooperative was provided with electric šrotarji, mills for coarse grinding of grain, available on credit to everyone. So, for the hand mills 'within six months everything was ruined.' Thus, Kitak's witty assertion that 'as long as people do not have beaks, like chickens, to peck even the grains, hand mills will always be able to sell' was mercilessly swept away by time.

Although the production of hand mills and millstones on Donačka Gora was probably also a 'centuries-old craft', reliable written sources about it are hard to find. Unlike the craft of cutting for whetstones, which was numerous and widespread in the localities around Rogatec, a real 'domestic industry of whetstones', which is said to have developed here at least from the 17th century in parallel with the glassmaking and which, for example, in 1910 supported 155 stone cutters and stone transporters (they worked in more than 30 large quarries) - between the two world wars it was in the hands of many operators, but in 1959 the closure of the state-owned Kambrus company practically sounded the death knell for this industry. The production of hand mills was limited to a few individuals who have not left any visible documentary sources. The last one, Vinko Kitak, had an activity in the years following the Second World War, sometimes even declared, then again undeclared; in 1965, he still employed four quarrymen in the quarry ([74]- *Jakob Polajzer Donačka Gora 39, the last companion who took a wife in 1965 on the Kitak farm. After Vinko's death, his farm (Donačka Gora 41) was sold, and the new owner threw away all the documents that might have existed.*) At least his testimony has come down to us, ([75] from Vito Hazler's field notes, preserved in the Museum of Contemporary History in Celje.), a photograph of his portrait (fig. 19) and material evidence of his activity: a sledge for hauling stones into the shed of the abandoned farm (fig. 20). In the three quarries of Donačka Gora, there are no comparable (and measurable) material traces left either, in some other quarries in Europe, similar and very old ([76], *For example from the Gallo-Roman quarry in Châbles (Chables?) in Switzerland (Anderson Duvauchelle, Agustoni, op. cit. 3-6) and from the cereals of the 16th-18th centuries in Quaix-en-Chartreuse in France (A. Belmont, La pierre et le pain. Les carrières de meules de moulin de Quaix-en-Chartreuse (XVI-XVIII siècle). Histoire & Sociétés Rurales 16. 2nd semester 2001, 48, 49, 51-55).* Here, stone slabs were broken and then shaped. In the file dating from 1824 of the Franciscejski land register of the commune of Donačka Gora (Donatiberg), one can only guess at a *kamnarska bajta* (quarryman's hut), located at the end of the plot of land that, to the right of the later Kitak property, rises towards the top of the mountain (fig. 21). The inaccessible cadastral map of the neighbouring municipality of Ceremožiše would probably confirm the existence of one or more quarries ([78] - *at the time of our visit to the Archives of Slovenia, the file was in the scanning process, it is not accessible for some time).*

The Rifnik stone, like the one from Donačka Gora, was called ržejak, rženjak (rye stone) in this region. Can we conclude that the stone gets its name from rye, the grain for which, along with corn (and barley and less so wheat), the hand mill was most often used? Most certainly. The Donačka Gora stone is also called gorski kamen (mountain stone). Both have a similar appearance - in terms of colour and structure. With the help of the geological map and appropriate consultation ([80] - *we examined the samples with geologist Breda Činč Juhant from the Slovenian Museum of Natural Sciences*), it was possible to identify them as a Middle Miocene limestone conglomerate with silica grains in the Rifnik quarry, and as a Lower Miocene conglomerate with silica grains and limestone in the Donačka Gora quarry. However, in this forested mountain mass, which towards the south reveals three peaks, in reality - despite its unique name - three different rocks were extracted; and this,

based on what is known about the appropriate quality of the upper stone, *laufer* or *tekač* or *vrhnjak* (the running/ runner stone) and the lower stone, *spodjak* or *spodnjak* (the dormant stone), ([81]- *For hand mills, besides the descriptive terminological designations gornji and spodnji or dolnji kamen (upper and lower or bottom stone) - instead of the common differentiation in the 'miller' vocabulary between vrhnjak and spodnjak (top and bottom) - I have decided to use the word spodnjak for the stationary lower stone and tekač (running/ runner stone) for the rotating upper stone (although this designation is not unknown to millers either cf. Bogataj,). The Slovenian(-ised) word laufer (running/ runner), as reported by master Vinko Kitak, is nevertheless certainly more telling than the single word vrhnjak, since it illustrates the essential; the movement). Under the left summit, in the excavation 'na Kamenškovem,' there is a conglomerate that would have been good for both stones, but it gave hand mills that were not the best quality. Under the central summit, in the 'Reberskov kot', a stone was extracted for the lower part of the mill, of hard siliceous sandstone appearance. It had to be 'denser and harder - it is on it that flour is made.' 'The top must grind the grains, because it runs.' For this one, for the stone intended for the tekači (running/ runner stone), one went under the right summit of the mountain, to the 'Kozji hrbet' (fig. 22, 23). There was a quarry with the best stone, 'the lightest with more ki(n)žlih, some kind of clots - blue and green - like molten glass' and also grey and white ones, quarryman Jakob Polajzer said. The softer cement of the conglomerate gradually disappeared 'as it sharpened', while the rest of the siliceous fragments and other ki(n)žlih 'mercilessly crush the grain's husk and then delicately grind the starch it contains' (as Belmont wrote about a grinding stone of similar quality, 'ideal for grinding' in *Quaix-en-Chartreuse in France*.)*

It is also reported that in both places, Rifnik and Donačka Gora, 'the same stone was produced for mills and hand mills.' However, the latter was ground differently only once '*na flah meljavo*' and not '*na pajkl*' – that is, without a sieve and without the possibility of sieving. Although the stone was identical, the method of obtaining good quality bread was technically quite complex. And the production of *spodnjak* (dormant) and *tekač* (running/ runner stone) was only an inevitable beginning. In this regard, the recent story of the quarryman Polajzer, supplemented by the memories of the late master Vinko Kitak, is moving because he is still alive. Indeed, for thirty-five years, the latter produced millstones for hand mills, mills and fruit mills.

At the end of the 20s of last century, (of the 20th century) Kitak, together with his brother, bought a farm in the village of Donačka Gora (number 39). He then married 'up there at the neighbour's' (number 44) where the making of hand mills and other stones was said to have been a family tradition. The farm was medium-sized, could feed up to five people, they had 'everything at home' (with about 14 hectares of land, a pair of oxen, a cow and her calf, a few pigs, chickens, some wheat, corn, rye, barley...) They only bought 'flour for cakes, salt, sugar and oil.' The work of the quarry complemented that of the farm. Because of the quarry, in order to 'open others,' Kitak later bought 25 hectares of land from three different owners. Jakob Polajzer, who in 1965 got married on the Kitak brothers' farm, remembers 'that the income came precisely from the hand mills (and other stones); money for the children, for school, with that money we managed the household.' So, at that time, despite his wife's wish for him to take a public job, he decided to become a quarryman. 'When you had made it (the stone), you sold it and you had dinars right away. The grain arrived every Saturday.' Since 'Uncle Vine' had lent him money for his wedding suit, he had to pay it back immediately with his work and for that, the day after the wedding, he was already working in the quarry. There, they worked ten to twelve hours, 'from sunrise to sunset,' for an income of 'four *jurij* (a thousand dinars) per day, food not included.' (At that time, a calf cost 35 thousand dinars.) In addition to Jakob, there were initially four helpers (in the best years, there could be six to twelve). Vinc was then registered as a craftsman, but because of the limit allowing helpers from outside the home only twice a week,

he had himself struck off the register and continued to work 'under the table.' In the last years, Jakob remained practically alone at the quarry. Vinc, as a master tailor, mainly dealt with customers, orders and the forge. This had always been an indispensable part of the cutting workshop, that is, the *kamnarske bajte* (quarry huts) of these regions (built of stone, earth and roofed with thatch), because it was necessary to 'arrange the tools' as one went along. The stone was hard, it is true; 'you used four picks a day.' The *kamnarske bajte* were usually located in the quarry itself or nearby. Kitak, whose excavations were quite close, had preferred to arrange a workshop on the farm itself to finish the cutting. Thus, in winter, the quarrymen were less cold at work; if necessary, they would go and warm themselves in the house.

The essential tools for making *spodnjaki* and *tekači* (sleeves and running/ runner gear) of hand mills were as follows (fig. 24, 25): 1, steel wedges or *kajle*; 2, short, pointed chisels or *trebljice za kalanje*, for splitting stone; 3, longer pointed chisels (chisel-shaped) or *špice* for shaping; 4, stonemason's picks, *krampiči*, hammers with a sharp point on both sides. 5; mallets for shaping stone; and 6, simple wooden compasses or *cirkli*. A stonemason's stool was also essential. In addition to the tools mentioned, smooth or twisted *gladki* or *zaviti* forests were also used to drill into the rock, two-handed sledgehammers or *hamri*, stonemason's hammers or *klepači* or *šlogači* with both sharp ends for finishing the surfaces; these had 'the last word.' Eventually, to blast the rock, the quarrymen prepared the powder on their own from saltpetre, sulphur, hazel charcoal and homemade vinegar. In the end, all they needed was *cink žnora*, a fuse.

As for tools, the production of stones for hand mills in the Rifnik quarry was much less demanding than in the Donačka Gora quarries. In Rifnik, only long, pointed chisels and mallets (probably pickaxes too), wedges and compasses were needed; in the same way (at least in all probability) as in the very old Gallo-Roman quarry in Châbles (fig. 26-29). With a compass, a circumference was drawn. 'With rods/ pins (and probably also pickaxes), the rock was crushed, passed underneath, and then with three or four wedges, it was detached from the base.' Then came the delicate making of the opening in the middle. It was 'a delicate task to make the hole, it could crack'. 'The hole was the wound.' As a result of this more often than not, the stone was capped with iron first.

However, in terms of time spent, the method described in Rifnik was much slower. There, in 'four or five days, from morning to evening,' only one stone was made in a hand mill. In Donačka Gora, a quarryman 'prepared roughly a pair of stones per day in the quarry. The fine cutting also had to be completed at home in the workshop.' ([86], *From the letter of Jakob Polajzer's letter, dated 15 March 2002; preserved in the Documentation Department of the Slovenian Ethnographic Museum.*) 'Until you had finished the pair, you were not to stop. The workflow was as follows; where possible, one started (first) with 'undermining to loosen.'; one tried to break the rock slabs without an explosion. Only when this was not possible were explosives used. No fewer than three workers would drill a 25-inch (about 62cm) long hole for three hours. For the stone to break properly, the hole had to be *na tri ogle* (three-cornered), with a buckwheat grain cross-section. With a stick, the homemade explosive was then stuffed into it, the fuse was set, then it was plugged with sand and the fuse was lit. The large pieces were then split with steel wedges. And if the resulting slab was good – without *hair* (cracks) or bad veins, if it 'popped straight,' if it was of suitable dimensions (about 2m²) and if the blow of the hammer 'gave a pure sound' (as an intact pot should sound) – then the shaping began. Four roughly shaped stones were loaded onto *vlačage*, a simple wooden sled (which could carry up to five pairs of millstones) and with a pair of oxen, pulled to the farm. Here in the workshop, the middle openings were made in the *spodnjak* (fixed) and the *tekač* (running/ runner) areas and the stone was finished. The two stones - the upper and the lower - had to be 'a little domed': the bottom convex and the top concave. This is what the master Kitak called 'the flat round surface'. Four

fingers from the edge, 'where the flour is made,' they touched with two fingers. And another wise and funny remark was left to us by the late Vinc. During the delicate final shaping of the stone, he liked to remark to Jakob: 'You must stare so hard that the sand ricochets into your eyes.'

When the work was finished, the stones were loaded 'pair by pair', up to ten (small ones), on a cart and transported to the Rogatec railway station. The millstones (up to 1 meter in diameter) were sent by train to Slavonski Bord, to Niš and as far as Macedonia; the hand mills (16–17-inch diameter, i.e. about 42 cm for mills driven by single-phase electric motors) were instead sent to Croatia, to neighbouring Zagorje. Customers from the region and Croatians mostly came to buy directly from Kitak. It was necessary to order the mills in advance and sometimes to give a deposit. Hand mills with a diameter of around 17 inches (around 42 cm) cost 28 thousand dinars between 1965-70 (a calf was worth 35 thousand). Between the two world wars, a similar figure is reported for Rifnik, where hand mills were worth 200 dinars and a chatterbox 2 dinars. Another testimony comes from a resident of Rifnik who bought a second-hand hand mill fifteen years ago for her father, who used to be a miller, who still wanted to have a hand mill at home 'for homemade corn bread.' She paid 200 German marks for this mill, or about 200,000 tolar. A loaf of bread then most likely cost about 2 marks, or 200 tolar. Thus, hand mills for the rather poor households that represented the majority of their last users were not exactly cheap. If there was no other way, one had to sell a few of their cattle to obtain one. As in the African Ahaggar (Hoggar Mountains in Algeria?), where a hand mill was exchanged for a goat or thirty litres of wheat.

The hand mill, the grinding, the women...

For people who have heard of hand mills today in Slovenia (neither archaeologists nor the inhabitants of the places where they were preserved during the last decades of the past century), the visual representations of this everyday object, once indispensable in many places, are, to simplify, the following: two round, flattened stones on a wooden support. Such views are based either on rare photographs and artistic representations from specialist or popular literature (in which the two aforementioned illustrations, the little girl from Šubic next to the hand mill and the photograph of the *žrvni* from Bela Krajina are repeated) or on rare hand mills exhibited in Slovenian museums, or from both sources. Everywhere - except in the ethnological collection of the Regional Museum of Koper where two old Istrian hand mills of the pot type are preserved (*[*89- According to Curwen (op. cit., 1937, 150) the hand mills of the pot type (Eng. Pot-quern) have the upper stone which turns inside the lower cylindrical and hollow stone like a stone container, a pot. Mills similar to those in Istria can be recognised in the photograph in the S. Michelle alf Adige Museum (see Madureri, op. cit. 19) and the photographs of Rajasthan from 1986, in the article by F. Cousin, Pains du Rajasthan: techniques et outils in L'Ethnographie 86, 2, (1991), 24, 25], (see fig. 30) made only of stone - the dominant feature is the hand mills with two less spliced, flatter, disc-shaped stones, as they most often evolved in the Middle Ages in Europe by being detached from the ground on various supports. Later, to facilitate work, they obtained as an improvement a long rod-shaped drive handle with a bearing on the ceiling or under the ceiling of the space where they were located (fig. 31, 32). Most of the examples preserved in Slovenia can thus be essentially defined as Medieval-type hand mills - both those in the collections of the Museums of Koper, Celje, Murska sobota and Metlinka and those still found in certain villages (fig. 33, 34).*

In this development, over the past centuries (as the Slovenian examples show), the most noticeable changes have appeared only on (for) the drive handle, the upper bearing of which has been lowered from the ceiling to various supporting parts (most often in the form of a gallows or frame) of the individual tabular supports. This is most likely due to the need or intention to move the hand mill. two more or less visible improvements may still be hidden in the supports; various mechanisms for

raising and lowering the upper stone and thus adjusting the quality of the grinding (fine or coarse) and possible drawers for the flour. ([92]- *In the case of hand mills that were used on the ground (and where they still are) and were not the pot type, the flour was usually collected on an animal skin or a piece of cloth. Cf.: W. Lochart, The Scots and Their Oats, Edinburgh 1997 18, 19; Gast. Adrian op cit. fig. 12-14*). The supports, like the improvements mentioned, are of expressly individual designs. Indeed, after the purchase of the two millstones of the hand mill from the quarryman (according to several testimonies), they were made 'alone at home', with alterations by a miller or village wheelwright (for some parts also a blacksmith was needed). These are therefore variants of the same object that are most apparent in the contours of the two stones - wooden or iron, round or rectangular with open or full corners, etc. - and in the execution of the lower bearing of the drive handle, which can be just a small hole or two in the *tekač* (common), or a loop in the iron circle surrounding it, or a piece of wood with a small hole, inserted between the upper stone and the circle (Fig. 35-42). In addition to those mentioned in the field notes, expressly individual alterations also clearly appear in the hand mills in the collection of the Slovenian Ethnographic Museum. There are even two examples that reveal attempts over several decades to improve hand mills with a component part of water mills - the *grot* (hopper outlet) - and with more elaborate mechanisms to facilitate the rotational movement of the upper stone (Fig. 43-44). Thus, after more than two thousand years of existence, the hand mill, by disappearing, began an original merger or connection with the water mill.

The shape of the hopper support also conceals modern electrically driven mills, domestic electric mills in which carpenters often incorporated stones from old hand mills ([94]- *From the places below Boč, information is reported about the late carpenter from Makole, who made them in the late sixties and early seventies of the last century,*) and for which the quarrymen from Donačka gora worked at the end. Such domestic mills continue to operate here and there in the villages around the Drava basin and Kozjansko; if not for household flour, then at least for coarsely ground corn for pigs (fig. 45, 46). In the late sixties and early seventies of last century, they represented one of the peaks of progress for many inhabitants of these places. At the Stojnšeks in Stari grad (no. 43) near Boč, the mistress of the house remembers, for example, how in 1971 she transported an electric mill with two cows from the Makole place. At home, the children were jumping for joy. 'Now we won't have to grind by hand.' And although they 'say it's not as good (with electricity), that it burns a little' later, they also ground an electric mill for bread, not just for the pigs. 'Like in the old days.'

The accounts written at the time of the collection of the museum are the most eloquent about the place that the hand mill once held in the cycle of food preparation, the concerns related to the presence of daily bread and other questions (where it was kept in the house; who, when and why it was ground; what cereals were ground and how long it had to be ground; what kind of bread was baked; what preparations were made with flour ground in the hand mill). The essential observations are condensed in the following sentences:

Around the Drava basin, in Kozjansko and Haloze, people lived in many places and until recently in houses that had preserved the traditional layout: the vestibule and the *črna kuhinja* (black kitchen) in the middle, the living room or *hiša* and the bedroom or *hiška* to the left and right of the kitchen. Larger houses had a small room, the *štible*, as an extension of the *hiša*, and as an extension of the *hiška*, the *špajza* (pantry). Since bread was prepared and baked in the *črna kuhinja* (black kitchen [dating back to Medieval times, can be an open-air kitchen, usually with an open fire]), the most convenient location for the hand mill was in the vestibule. This is where I found it in Babna brda (fig no. 14) southwest of the Zgornje Sotelsko hills; in the corner behind the front door of the house of Tilčka Vračun (born in 1928), who insisted on this fixed location, saying: 'It has been there since the

beginning of time.' The hand mill must have been installed in the corner of the entrance for many decades, since it was fixed. The way in which the support is assembled, in a dovetail fashion, a common practice in Slovenian farming circles between the beginning of the 8th and the middle of the 19th century, testifies to its real age quite directly and accurately. Indeed, the upper bearing of the drive handle for turning the *tekač* (runner/ running stone) was placed in the middle of a board that was embedded in the wall behind the front door on one side and nailed to the lower surface of a beam in the vestibule on the other side. Apart from the vestibule, where the hand mill would have been most often placed, it was also placed elsewhere, for example in Scotland (see Bennet, Elton *op. cit.* 173. In Ireland the hand mill usually had its place in the main living room next to the hearth, as shown in the picture by E. E. Evans from 1945, in, *id. Irish Folk Ways*, London/ Boston, 70), the places where it could also be found were the *štible*, the *hiša* and the small room as reported at the end of the 19th century. The lowering of the upper landing of the drive handle from under the ceiling to the bearing part of the support certainly made it possible to move the hand mill. Thus, if necessary - although rather heavy - it could be moved from the vestibule to the *hiša*, into the small room and back to the vestibule. In the home of Katarina Seidl (born 1925), for example, in Grajenščak (fig.no. 4) near Ptuj, it was first in the hallway and later in a small 'room where we children slept.'

And it is reported that most often it was children, especially little girls, who, alongside women, ground the wheat in the huts, winegrowers' cottages and other poor peasant dwellings, despite the hardship of the work. 'A little one like that, she was already grinding' and 'I had barely reached the top and I was already grinding,' recall Marija Skrbiš (90 years old) from Stari grad (no. 42) near Makole and Marica Jugovec (45 years old) from Krčevina (see no. 147). Near Vurberg. Rozalija Stojnšek (born in 1931) from Stari grad says, 'that it was her mother who ground the most,' otherwise it was she and her sister who ground; 'one held the bottom, the other the top.' (Marica Petek (born 1936) from Grajenščak (no. 1) near Ptuj, remembers grinding in the same way with her brother.) If they were too slow because they were having fun, telling each other children's jokes to pass the time, jostling to see which of them would hold the bottom (it was easier), their father would beat them with a belt, urging them 'You're going to grind, and quickly!' 'At our place he never ground,' Tilčka Vračun from Babna brda would insist: 'Father never ground; only us women ground.' 'That's how it was, the woman knew when she had to grind; and she had to do it.'

They ground 'almost every day', 'for now,' because they couldn't really work for long. 'In the morning, we had to get up before school.' 'The order was: go and grind! It had to be ground before we went to school.' They ground first for the bread, and then for the pigs. For the bread, the 'fine' grind, they had to grind for half an hour to get a kilo of flour. 'For half an hour you had to really work hard for a kilo of flour.' But they usually ground only once a week, for an hour and a half to two and a half hours (or little by little, day after day, kilogram by kilogram) for bread, because they usually baked it once a week. 'On Saturdays mother baked the bread.' On Sundays, they enjoyed the bread, by Wednesday there was none left. In one of the poor houses, it is remembered that they had 'only three loaves a week;' at the blacksmith's farm, 'up to five loaves' a week were put into the *krušjak* (bread maker). Here and there, bread was only rye (especially in Pohorje) or only corn, but mostly one speaks of 'everyday mixed bread.' It was black bread of 'mixed grinds', mixed with wheat, rye and a little corn, for which the flour was usually sieved, the bran given to the cattle. Through 'a silk sock' passed a 'super nice little flour', but for white bread and pastry there was never enough. 'For white flour they took to the mill.' 'They took to the mill in Rogatec.' They did not do it very often because, according to the stories, they could only afford it 'for *Pagures*, *Pentecost* or for some sausages.' For the daily bread *zmesni* (mixed bread) the housewives usually prepared the sourdough on their own, 'the one that is sour - from home-made yeast and grape seeds. 'All night the sourdough rose,' and then 'the bread made with it lasted all week.' Despite the possible sieving, the flour ground in the

hand mill remained rather coarse. 'There was the bran.' Bread prepared only with wheat flour would crumble and for this, the flours had to be mixed. For two wheat proofing basket/ banneton basket, one rye proofing basket was used. This one, as it was stickier, held the bread together.

For everyday needs, apart from wheat, rye and corn for *zmesni* bread (mixed bread), other cereals were also ground. 'Everything that is grain.' In the morning, for breakfast, corn and buckwheat were ground rather roughly for *žganci* (dough), the simplest dish made of flour, and 'for *zamet*', [Zamet = velvet/ purple] or, the *thick soup*. In the first half of the 19th century, Anton Krempel, for example, speaks of such a 'thick corn soup' in the text *Dogodivšine štajerske zemle* (The Adventures of the Styrian Land), under the name '*haložka čorba*', Haloze soup. Sources showing the preparation of this soup and other simple dishes made from flour ground in a hand mill can probably be traced back to the mists of time.

However, while the hand mill was still in use, the important question was also how to grind and how to maintain it. Indeed, this indispensable device in many houses, which was turned every day, wore out over time and became too smooth. The hard shell of the rye and barley grains would have particularly contributed to the wear of the two millstones. It was therefore necessary from time to time to dress the stones of the hand mill (as with the millstone) so that they would continue to grind well. They dressed them themselves at home. 'You must know how to do it.' 'My father dressed it himself.' For this type of shaping, a 'dressing hammer', a *krempač* (claw) or *klepač* with both sharpened ends, was used. Know-how was absolutely necessary. Today 'no one knows how to do it anymore.' Oral testimonies speak of the re-dressing of both the upper stone and the two stones, which is confirmed by the radial marks on the surface of the three examples in the museum collection (*SEM, see catalogue no. 5, 6, 8*).

Before grinding, the height of the *tekač* (runner stone) was adjusted, the distance between the two stones. 'If the stone was lowered,' it was good for fine grinding, for flour, 'if it was higher, it was for coarser grinding, a mixture for pigs, and for thick soup.' It was easier to grind if the hand mill was 'at waist height.' ([105]. *The examples in the collection of the Slovenian Ethnographic Museum are of different heights and in all probability their measurements are not original. Rotten, the lower parts of some frames have disappeared, and they have been lowered; attempts to restore the heights are not authentically correct. In most examples, the millstones of hand mills are at a height of 65 to 89 centimetres*). Before grinding, the grain was often also dried, for an hour 'in the oven in iron containers' as has been documented for example in Scotland. ([106]- *Lochart op. cit. 19; Curwen op. cit. 1941, 29. The latter author mentions the heating or roasting of grain for the time 'before and during the Roman period' and for 'the Hebrides not long ago.'*) In this way the grain became softer, more crumbly, less crushed or flattened. And then, when grinding for bread, you had to "pull hard." "If you didn't grind fast, nothing was done." "The more you turn, the more flour comes out." For speed, which allowed for better quality flour for bread, two pairs of hands were usually needed, especially if children were operating the mill ("in those days we milled together with my sister.") The one standing underneath inserted the grains into the opening of the *tekač* (runner/ running stone). "You grind with your left hand, with your right you put the grain in; on the right you have the grain basket." And here too, without skill, without know-how, it was no good. To grind in a hand mill, "you had to have practice" not just strength and endurance. The drive handle – *štil*, *melajnik*, *žrmlščica* (trowel) – could hit the hand of someone who was not good enough at this job while inserting the grain and "everything would spill."

While grinding, the women did not sing – "we should have had a loud, strong voice" - although in past centuries and in other countries singing is attested during this work ([107] - *Bennet and Elton report singing during hand-milling in the 1st century BCE according to Virgil (cf. op. cit. 134); they*

attest it for Greece, (cf. op. cit. 166); and for Scotland in the 19th century (cf. op. cit. 171); for England, they write that 'singing while hand-milling has practically disappeared since the introduction of water-mills', when the millers, because of taxes, were allowed to seek out those who still hand-milled and to destroy their hand-mills (cf. op. cit. 169). Often, they uttered a prayer: 'My God, help me to grind.'

So, the prayer for daily bread was probably somewhat present in the prayer to God for help in probably one of the most difficult tasks on the farm. In fact, these places in Styria were never located 'in the middle of a round loaf', but rather those where 'God beckoned with an empty sack.' In the first half of the 19th century. Krempf wrote about bread in these regions: 'The Slovenes who live mostly in the mountains and on poor soils... do not have much bread and in difficult years they suffer from famine.' For many, the daily *zmesni*- (mixed grain) bread was already a gift from God and the white bread was the dream of a feast day. Rozalija Stonjšek, from Stari Grad near Haloze, remembers, for example, that in her childhood a baker went from house to house selling white bread and "there were not three pennies to buy it." As children, they wanted the bread very much but most often it was in vain. She sometimes managed on her own by exchanging dried fruits from home when she was at school for white bread from the children of wealthy families.

In the remote regions where hand mills have persisted almost to this day, the following associations have been established: hand mill- bread- poverty. Besides the remoteness of water mills, and later of roller mills, poor communication and other geographical and economic reasons, the hand mill has endured for so long due to the social position of most of its users- the winegrowers, cottage dwellers, small farmers, poorer communities...

In this regard, the moving memories of Marica Jugovec from Krčevina near Vurberk, is perhaps the most eloquent. In the years following the Second World War, she grew up on a small farm on the banks of the Slovenske gorice, where hand mills were used until 1965. Her father and mother would leave early in the morning to work all day serving on other farms. Little Marica was left alone, often with an empty stomach rather than a full one. When she was still too small to turn the mill, she would 'run her finger around it' to "collect flour for some poor cake." They lived so poorly that they did not want to lose or waste even a grain of flour. "Of course, there were mills, but if you took the flour to the mill you had to pay, and they would take (a bushel) from you." They continued to use the hand mill...

Concluding words on the hand mill, its importance and, as always, on the hand mill and women.

Having reached the end of the text with the impression of having really said everything, I return to its beginning to skim over the content and conclude that the essential knowledge and discoveries relating to the hand mill in Slovenia, in the remote places where it is now and where it was used to grind wheat in recent decades, could be summarised as follows:

- In today's Slovenian territory, the existence of the hand mill with a rotating upper millstone is reliably reported at least since Antiquity, namely from the 1st century AD to the last quarter of the 20th century. After their ancestors, Slovenian women used the hand mill for fourteen centuries (excluding the medieval ban, it seems, which prohibited hand mills in favour of water mills.)
- The examples that have been published and unearthed in archaeological sites, are disc-shaped hand mills and mills with a raised running (runner) millstone with a laterally notched hopper. Until very recently, people in the villages along the Drava basin and in the other regions mentioned used a modern version of the medieval hand mill, whose millstones rested on individually designed tabular frames and which had a support in the form of a bracket or frame intended to receive the upper

bearing of the rod-shaped handle or the bearing handle located on or under the ceiling of the place where the hand mill was located. The shape and functionality of the more recent examples suggest that they are close (similar) to water mills in many respects.

- The function of the hand mill (manual), where it is still used, has been largely replaced by electric household mills. In recent years, people in the mentioned regions have increasingly used old, adapted hand mills or new hand mills to grind wholemeal flour, which they use to bake organic homemade bread. (Fig. 47).
- The quarries or stone caves of Rifnik and Donačka gora were the main suppliers of stones for hand mills. Most of the time, the quarrymen were *kočarji* (coachmen), the inhabitants of the cottages (also the most numerous to use hand mills) and this work allowed them to survive. The money from the sale of hand mills and millstones allowed the owners of the quarries, as well as their relatives, to run their business and educate their children, and for their livelihood, they had the farm.
- In the first quarry mentioned, the quarrymen worked a Middle Miocene limestone conglomerate, while in the other, they broke and worked a Lower Miocene conglomerate (with silica and limestone sediments). These two quarries were very famous all around for the quality of the millstones, ideal for grinding rye, buckwheat, corn, less so for wheat, but also perfect for barley, millet and oats. In fact, all the cereals produced by small mixed crops, self-sufficient farms, those of small farmers, cottage dwellers and humble winegrowers were ground using these stones.
- The grinding of rye, wheat and corn was done in the hand mill, and the mixed daily bread was generally baked once a week and here and there every day. For the white festive bread and the small dry cakes, the wheat was transported or carried to the mill to be ground. White bread being rather rare, it was much desired; among peasants (and the rich), it symbolised wealth.
- The hand mill was generally located in the vestibule or in the small room of the house. The milling was the task of women and children, who generally milled early in the morning, for daily needs.
- Geographical conditions, self-sufficiency and poverty made the hand mill a 'long-lasting' instrument.

The hand mill was, one could say in general, the symbolic object of self-sufficiency, the indispensable and essential device for the daily survival of the peasants. In the past, in the peasant family collectives, its importance was such that the medieval Anglo-Saxon and Welsh laws went so far as to prescribe: 'that the upper millstone of the hand mill should belong to the man and the lower millstone to the woman.' They should therefore live together and stay together forever. Is this idea perhaps hidden in the words of Vinko Kitak from Donačka Gora, who spoke of the millstones 'as of man and woman'? It was probably only an erotic association that came to mind because of the insertion of the upper millstone into the lower millstone. This is an interesting question, but apart from Kitak's words, there is no proper evidence that the British meaning of the hand mill is similar in Slovenia. Otherwise, in the region of they considered it to be so 'because it turned.' They also used the term '*žrmljanje*' which expresses the action of grinding, in a figurative sense, to describe people 'who talk like a mill to say nothing.'

The technological and social importance of the hand mill is also not to be overlooked. In Marx's *The Poverty of Philosophy* (quoted in the work: *(C, Parain, Outils, ethnies et développement historique, 1979)* it is highlighted in a sentence that is not without interest, but which perhaps oversimplifies. Marx speaks of hand mills (thinking of Egyptian quern stones/ back and forth motion mills) as a

technological and social turning point: 'The hand mill will give you society with the overlord, the steam mill society with the industrial capitalist.'

Gradually, the hand mill became a byword for hard times and poverty, especially for the misery of women in less developed regions. The work of 'Beneška Slovenija' (Venetian Slovenia) makes them witnesses to hard times. In some regions, people remember that during the Second World War, when they were in need, they used the already forgotten and abandoned hand mill again. Marija Skrbiš from Stari grad near Makole, aged ninety, did not want to show me hers, on the pretext that she no longer had it and wanted to hide the misery of her dilapidated cottage, personified by her 'three-hundred-year-old hand mill,' which all her neighbours had described to me in such detail. This Slovenian image of women's misery is certainly not the only one, especially in some non-European countries where the hand mill is still used for daily grinding. For example, in a newspaper article from 1997, which talks about the misery of Moroccan women, the photograph above the rhetorical subtitle 'How to escape from misery?' is precisely that of a woman holding the hand mill (Fig. 48).

The series of fundamental associative words 'hand mills-bread-poverty', which emerges from the previous pages, would not be complete if I did not also add, in my conclusions, the fourth word: women. In fact, it is precisely women who will find us at the beginning and end of the Slovenian and world history of the hand mill. 'The beginnings of the art of grinding wheat are (and were) in the hands of women,' wrote Madureri, and to support this statement, he cited some interesting biblical excerpts. Grinding with a hand mill, or millstone, was then a task mainly reserved for female slaves, as well as for male slaves. They were the only ones to perform exclusively female tasks, which shamed men. Another testimony is the frequently cited scene from the biblical story of Samson who, finally mastered, had to turn the Philistine mill to his great shame. While the development of milling technology in watermills and other mills made milling a male occupation, namely that of millers, the hand-operated devices, the hand mills, remained the domain of women. The grinding stones and later the hand mills unearthed in archaeological sites establish a connection between women and these objects, as do the telling objects found in some Neolithic (and later) tombs unearthed in Brittany (England), Denmark, and elsewhere. It was women's hands that passed the hand mill from one generation to the next; the hand mill was passed down from mother to daughter for generations. In homes, women were, for generations, the ones who ground wheat into flour to knead bread and prepare floury dishes, whether this was a social archetype transmitted from generation to generation or a purely functional act, because the woman 'knew when she had to grind, and it was up to her to do it' (Fig. 49).

It is therefore to women, to mothers, that the merit of daily bread, of the essential survival of their family, falls most directly. Hence the title of this presentation: 'Our mother, give us today our daily bread,' which is inspired by a phrase from the prayer Our Father. (* The presentation was presented at the international conference 'Extraction, shaping, trade and uses of millstones - an industry in the long term - in *La Ferté-sous-Jouarre*, 16-19 May 2002. Given the limited scope of the text, the publication in the French collection is not accompanied by the illustrative material and the catalogue of the Museum's collection.)

Photograph captions

1) Jurij Šubic, Little girl next to the hand mill (Georg Šubic, 'Die Handmühle') illustration published in *Die Österreichische Monarchie in Wort und Bild*, Steiermark, in 1890.

2) Maksim Gaspari, Little girl next to the hand mill, charcoal 38 x 43cm signed MG, undated (between 1929 and 1948), Gaspari worked at the Slovenian Ethnographic Museum) From the collection of artistic sources of the SEM.

3) 'Hand mill of Bela krajina' photograph in the Ethnography of the Slovenes. 1, illustration from Ložar's article on the Food of the People.

4) Maja Šubic, Hand mill, illustration published in the picture book by Darja Mihelič. I am Bourgeois, in From the Life of Medieval Cities. (Ljubljana 1996, 3).

(5-7) Two upper pieces and one lower stone of hand mills from the High Antiquity found in Rifnik, deposit of the Regional Museum of Celje; all three have a diameter of 34 to 37 cm and despite the slightly different colour of the stone, by the appearance of their structure, they are all of limestone conglomerate. (Photo 1, Smerdel, 2002)

(8) In the hand mill of the High Antiquity settlement Gradec near Prapretno in Kozjansko, published in the article by S. Ciglencečki. Results of the first research in Gradec near Prapretno (Arheološki vestnik 32, 1981).

(9-12) Mills near the castles Soteska (near Dolenjske Toplice), Dragomelj (near Domžale) and Gradac (near Metlika) and an example of the mill at the monastery of Kostanjevici na Krki, depicted in the facsimile edition of copper engravings of the Topographia Ducatus Carniliae Moderne of 1679 by Valvasor (Ed. B. Reisp. München 1970).

(13) Map of Slovenia indicating the areas where hand mills were preserved for the longest time.

(14-17) Abandoned quarry in Rifnik (Photo I. Smerdel, 2002)

(18) Rifnik (Reichennegg) Franciscejski Land Registry File, 1825.

(21) Donačka Gora (Donatiberg) Franciscejski Land Registry File

(19) Vinko Kitak during the visit of the journalist from Delo in 1993. (From the Delo documentation photo)

(22) Donačka gora, view from St Jurij, (photo I. Smerdel, 2002)

(23) Sketched note of the three excavations in Donačka gora, made in March 2002, based on the story of Jakob Polajzer. 15) (20) Stone-pulling sledge, vlačuga, in the abandoned Kitak farm. (Photo I. Smerdel, 2002).

(24-5) Stonemason tools from Polajzer (those that still existed); wedges, chisels, picks and hammers, (Photo I. Smerdel, 2002).

(26-7) Reconstructed representation of the essential tools and working method of the Gallo-Roman quarrymen in Châbles, illustrations published in the Swiss article cited.

(28-9) Unfinished hand mill stone and Stanko Zupanc, current owner of the Rifnik quarry, during his story. (Photo I. Smerdel, 2002)

(30) Pot-type hand mill from the ethnographic collection of the Koper Regional Museum. (Photo Dušan Podgornik).

(31-32) medieval hand mill, 12th century representation of the manuscript of the Legend of St. Jadwiga (Ostrowski Manuscript, 1353), and of a German manuscript cited without precision,

published in the English journal *Archaeological Journal*; illustrations from the book *Kultura Polski* (editor Jerzego Dowiata) and from the cited book by Bennett and Elton.

(33) hand mill from the village of Cerkojščke in Bela Krajina, 'about one hundred and fifty years old, ' from the collection of the Bela Krajina Museum in Metlika (inv. no. E. 358).

(34) Hand mill in the village of Pečke, no. 45a, colloquially called 'p'r Simeki' (Photo I. Smerdel 2002,)

(35-38) Outlines of a hand mill, outline of a wooden sieve (Reto [?]) outline of a cooper, sheet metal example, rectangular outline with full corners. The photographs are the result of research on hand mills by pupils of the Poljčane Elementary School in 1998.

(39-42) Examples of hand mills from the SEM Collection, catalogue numbers 3, 4, 5, 6.

(43-44) Examples of hopper hand mills from the SEM Collection, numbers 2 and 7.

(45-6) Electric hand mill from Stari grad near Makole and Donačka Gora (I. Smerdel 2002)

(47) New hand mill made after an old model by Franc Stojan from Spodnje Poljčane, used by the girls of the Poljčane Elementary School, co-author of the research on hand mills in 1998.

(48) Photograph of a Moroccan woman at next to a hand mill published in an article in the newspaper *Delo* in 1997.

(49) Woman from a small island in the Adriatic, Srakane next to a hand mill. (Photo Zvona Ciglič, 1983).