

TIMS E-NEWS

The International Molinological Society

Fall/ Winter 2017

Issue 23

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INTRO BY OUR PRESIDENT

Dear TIMS Members and Mill Friends,

For this edition of E-News we have received a lot of interesting contributions. Many thanks to all the contributors.

This issue includes a pictorial impression of the TIMS Mid-Term excursion to the Midlands by Diederik Wijnmalen (a full report will be published in the next issue of IM), as well as an account of a journey, or rather an expedition, to the Faroe Islands in the 1950s to visit a single mill by our long-standing member David Jones.

Mike Beacham describes some examples of millstone accidents in the UK, and Leo van der Drift a visit to four of China's most interesting mill sites. In addition you will find various news items and the usual book corner, this time with quite a lot of new titles.

This introductory message is illustrated with a selection of photos of Finnish windmills taken during a most interesting mill trip in May/June of this year.

TIMS is publishing "Introduction to Molinology" chapter by chapter as PDF files. The individual chapters can be downloaded by members from our TIMS Digital Library.

The Library is growing, for instance most issues of the series "Bibliotheca Molinologica" have now been uploaded. Access to the TIMS Digital Library is given to all TIMS members on request.

As always Leo, our E-News editor, would like to encourage you to send us YOUR inputs. So, if you:

- know about a new mill book, please let us know,
- have made a mill trip, send us your 5-10 best photo's,
- have heard about an upcoming mill or related conference, please do inform us,
- would like to introduce a mill museum or collection, write to us,
- have news you think could be of interest to other mill enthusiasts, let us know!!!

Not a member of TIMS yet? Well, it is easy to enroll, just complete the [on-line application form](#).....

Enjoy reading the E-News !!

Willem van Bergen

e-mail: wvdb@gmx.de



Enonkoski, Etelä-Savo, Muhomäen mylly.



Eno, Pohjois-Karjala, Kokkolan mylly.

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Karvia, Satakunta, Majanmaan mylly.



Karvia, Satakunta, Ojanperän mylly.



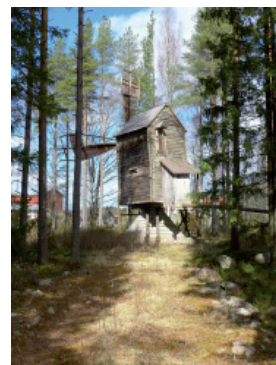
Maaninka, Pohjois-Savo, Yläpihan mylly.



Lappajärvi-Itäkylä, Etelä-Pohjanmaa, Kujalan mylly.



Suomussalmi-Kiannanniemi, Kainuu, Lapin mylly.



Raahe-Alpua, Pohjois-Pohjanmaa, Salon mylly.



Ylöjärvi-Mutala, Pirkanmaa, Vikelän mylly.



Vaasa-Sundom, Pohjanmaa, Södersunds kvarn.

TIMS COUNCIL

By Jorge Lucas.

We continue the introduction of TIMS Council Members. For this issue, we asked Jorge Lucas, Council Member for Portugal, to tell us a little bit about himself. He writes:

“For about 20 years, and through archaeology, I knew Jorge Miranda and I became one of the lovers of windmills. This growing love began with

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the study, recovery and restoration in the territory of Amadora, where I lived.

As time has gone by, our field of action has spread throughout the national territory and to different types of mill: water and animal trekking, which led to attractive and more complex projects which always felt like challenges.



In this team work I ran from the north to the south of Portugal and even in our islands, always recovering the most varied models and typologies of mills, as well as always participating in local, national and international meetings about mills and grinding systems.

Later, and by entering the municipality TIMS Portugal's board, I began to understand how I was enriched by the fact of being able to share in the network of knowledge of the most varied technologies of mills scattered around the world.

At the moment I live at Góis, in the interior of Portugal, where I am involved in a study of a mountain river, where there are many traditional grinding systems that give a great patrimonial value to this territory. It is a work concentrated in a small territory but needing especial attention (registration and knowledge acquired in order to preserve knowledge). It is a depopulated territory in the mountain with a sleeping, giant valley of fabulous traditions and technologies ready to be registered and to be energized in a few years.

My preferred area of action and expertise is ethnography and particularly traditional systems and old mills, but also knowing the "Know-how" in the transmission of knowledge by the old millers who still live in this territory.

Here I embrace those who care about this technological heritage - "our mills".

WORLD NEWS

ENGLAND

TIMS Mid-Term Tour 2017 to the Midlands, UK

A pictorial impression, by *Diederik Wijnmalen*.

The TIMS Mid-Term Tour 2017 brought a group of 46 mill enthusiasts from 12 countries (including Tony and Kate Bonson, the organiser and higher management respectively) to the Midlands of England. The next issue of IM will present an in-depth day-to-day report of this brilliant tour. Below follows a short first impression in pictures.



*The waterwheels of Cheddleton
Flint Mills*

Figure 1: Magnificent views of England's countryside, taken from the sites of Chesterton Windmill (a and b) and Heage Windmill (c).



1.a



1.b



1.c

Figure 2: Debussing and onbussing: stick to the scheduled time please (a), and waiting for departure (b)



2.a



2.b

Figure 3: Volunteers were eager to receive us, to explain the workings of their mills, and even sing to us: at Heage Windmill (a), and at Shepherd Wheel Grinding Workshop (b and c)



3.a



3.b



3.c

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Figure 4: What would a molinologist be without a camera when taking in the general view of Coppice Flint Mill (a) and the peculiarities of Ashford Bobbin & Bone Mill (b)?



4. a



4. b

Figure 5: Dismissed millstones (a) and a couple of impressive water-powered tilt hammers (b) at Abbeydale Industrial Hamlet



5. a



5. b

Figure 6: Coffee, tea, cakes (a), lunches and even wine from English origin (b) kept the group going for another couple of hours (and mills)



6. a



6. b

Figure 7: Waiting one's turn at Danzey Green Postmill (a); the interior was well worth waiting for (b)



7. a



7. b

Figure 8: While visiting Charlecote Flour Mill (a), finding time for a group photo in front of it (b)



8.a



8.b

In addition, check out these videos on YouTube produced by Gerald Bost:

Part 1 <http://www.youtube.com/watch?v=GEatwdY7xOc>

Part 2 <http://www.youtube.com/watch?v=AQR4c1ki0kc>

Part 3 <https://youtu.be/e7nWBL7e5ZE>

Part 4 <http://www.youtube.com/watch?v=wKdlq0S9pz0>

Part 5 <http://www.youtube.com/watch?v=kwQn8i5ENfg>

Part 6 http://www.youtube.com/watch?v=inOfC_SPnOo

Part 7 <https://youtu.be/f63ed2E6cXQ>

FAEROE ISLANDS

A Molinological Expedition to a Norse Mill, 1950's Style, by David H Jones.

Having visited a number of watermills in England and Denmark, I decided it was time I extended my experience to those with horizontal wheels, or 'norse mills' as they were more usually called then: but where to look? Most illustrations were from remote places difficult to visit at that time. They were also old and I thought it unlikely those mills still existed. Then I found a recently published book called 'The Atlantic Islands'. The author was a member of the British Forces stationed on the Faeroes during the war, and among other things, he observed several working watermills! That was not very long ago, so there was a good chance they were still there. I decided; I would see them for myself.

I began planning the journey to visit them, but found it was not easy. There was no direct passenger service and it seemed I would have to take the ferry from Copenhagen! The local travel agent had never even heard of the Faeroe Islands, but he took up the challenge of finding me a better route and he eventually succeeded. His first discovery was not a regular passenger service at all. Many trawler captains would take a passenger if they had room, and he got the address of a fish merchant's agent in Aberdeen who would make such arrangements. He then found a more conventional route. He told me: "Last year, a company based in the Faeroes had also begun running a service from Copenhagen with a new ship, and recently it had added a few calls at Shetland." That was much better, but I would still have to reach the Shetlands. I left that to the agent, and he booked it all for me; but he was unable to find out anything about local services on the Faeroes. I would have to sort out that on the spot. It would give me a week on the Faeroes, which I thought would be enough. I decided to return via Copenhagen because I had enough holiday available and I could find good use for another week in Denmark.

In September 1955, I left work in Hanwell on a Friday evening, took a steam train to Paddington, underground to Kings Cross, overnight train

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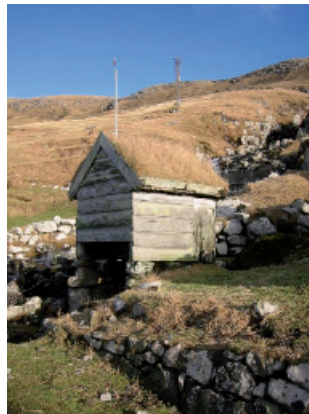
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to Edinburgh and another train which got me to Glasgow very early in the morning. A bus, and then a tram and a long walk got me to Renfrew Airport. That was before the days of mass air travel and the BEA aircraft used in northern Scotland had two radial piston engines and seated 36. It was not pressurised, so as it took off the steward came round with a tray of barley sugar: sucking it was to prevent our ears popping as the air pressure changed. It landed at Inverness where we got out while it refuelled. Whereas Renfrew was a modern airport, only opened the previous year, Inverness was a pair of Nissen huts beside a grass runway. As the journey continued, the airports became even more primitive as we went north. Kirkwall looked like a collection of improvised wooden



Example of a Faeroes water-mill : the mill at Skarvanes (not the one described in this article).

huts, while Sumburgh on Shetland looked like a tiny kiosk with a signpost beside a bus shelter. There was a bus and it took us to Lerwick, with an hotel where I would stay overnight, as the boat would not arrive for another twenty-four hours. It was quite a good hotel and really safety conscious, for a notice to guests included the warning: "In the event of fire during the night, the dinner gong will be sounded." Quite practical actually, although it sounded rather comic. I found eight other British passengers waiting, taking advantage of one of three dates available that year. We soon got talking, and I was astonished by how ill-prepared they were. They seemed to know nothing about the Faeroes and what was there: I was the only one who had a map. One of them was a university lecturer in Old Norse who wanted to learn something of another of its modern descendants. I could speak some Danish (the islanders learned it as a second language) but none of the others even knew what language the islanders spoke. Most were on holiday, but one, whose name I have forgotten, was an Aberdeen food wholesaler on a business trip. He felt quite at home here because he had been born in Lerwick. He was interested in the reason for my trip and we talked about it at some length. Next morning we faced spending most of the day waiting for the Faeroe boat and he suggested we spent it seeing the Shetland main island. As a former Shetlander he knew people there, and he only had to visit one to borrow a car for the day. Of course I accepted and enjoyed a general view of the Shetland 'Mainland'.

The ship did not arrive until late afternoon and after dinner it was dark, so nearly all the crossing to Tórshavn was spent in bed: well, there was nothing to see anyway. When I went ashore I saw my first example of written Færøsk. Just one word, "Ruterbilur", but I could read it! I could also trace its history. The first part, ruter, was from 'route', with the same meaning. Originally Latin, it continued in French and was later borrowed by several other languages, including Danish. The second syllable also began with Latin: two words, 'auto' (self) and 'mobile' (move) which remained part of French. When motor vehicles appeared and needed a name, French put them together as 'automobile', which was taken up by many other languages. Most of these borrowers shortened it to 'auto', but Danish reduced it to 'bil'. So after adding the Færøsk grammatical 'ur' ending we get Ruterbilur, a motor vehicle which follows a regular route.

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I felt very pleased with myself! Not only had I understood, but I had solved four stages of linguistic evolution on sight! Of course it was not the slightest practical use to me. It was painted along the side of a vehicle, and I knew a bus when I saw one without needing a written sign to tell me what it was.

Tòrshavn had a modern, recently built hotel, so I booked a room and went to find a tourist office. They had one, where a very helpful man listened to what I wanted and told me the nearest workable watermill was in the village of Kvìvik, on the same island we were on. There was no road to that part, so I would have to take a boat, and stay there two or three days. He made all the arrangements, and I just had to follow his instructions.

Next morning I went down to the quay and found a fishing boat which had been converted into a carrier of small goods and passengers. There was no special provision for passengers, not even seats: we just stood on the deck. Further conversions were in progress to give the passengers some cover, but the work had got no further than setting up an angle iron frame which would carry a roof. I was joined by one other local passenger, and we watched the cargo being loaded. It was mainly packages and building materials but the last item was a coffin. As soon as it was in place, one of the crew fetched a flag, ran it up to the top of the mast, and then part way down again. They had to have a flag at half mast because they had a funeral on board. I then noticed there were flags at half mast all over Tòrshavn because there was a funeral in the town. While we waited I saw most of the British travellers walking along the quay. They all noticed me but were too far away to speak.

We set off, and as soon as we were clear of the harbour the boat began pitching so much that we could not stand still. Before long I crashed into one of the upright angle irons. Its ends had not been fixed yet and it fell onto the deck. A few minutes later the other passenger did the same with another upright and the whole lot came down. When we reached Sandevæg on the next island, a flat-bed lorry and a small group of people were waiting, looking very upset. The coffin was loaded onto the lorry, which drove off slowly with the group walking behind it. The crewman lowered the flag and put it away, then inspected the angle irons. He made no comment; just put them all up again. I thought it was like resetting a mousetrap ready for the next victim. The boat soon set off, but we hadn't seen the last of that funeral. For a long time we could see the lorry driving very slowly along a road on a hillside behind the town with the mourners walking behind it. I never learnt any more about it, but there must have been a real tragedy behind it. The mourners' obvious grief remains a vivid memory, even now.

Eventually we reached Vestmanhavn, at the other end of the same island as Tòrshavn. There was a young man waiting for me with a car to take me to Kvìvik. Just outside the village we came to a small building with a couple of large steel pipes running up the steep hillside. I remarked that it must be the new hydroelectric station I had heard about and he asked me: "Would you like to see it?" I would, so we got out and just walked in. It was all very informal. Inside I found a 1 Mw Pelton wheel and low speed alternator, the usual switchgear, and a young man seated at a table reading a book. He had to be there in case something happened, which it usually didn't. I also noticed a foundation prepared for a second set, and another alternator stator crated up in the corner. When I asked about it he looked awkward and told me it was a spare. I was to hear later that it was the

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original machine which failed a few weeks after the station opened.

We drove on to a small harbour with the village of Kvivik centred around it and straggling on up the hillside. We walked to the highest farm, where I was to stay with the Bærentsen family. The farmhouse was a long, two storey building with dry-stone walls forming the lower part: that was for storage and to house the animals in winter. The domestic part above it was built of timber, roofed with turf. Around it were several sheds, including the thing I had come to see; the mill! I had finally arrived, after a journey involving almost every means of transport I knew of. About the only things I could think of which I had not used were a horse, a camel or a bicycle!

They invited me in, and I found it was a quite a comfortable house. The kitchen was quite a large room where the family normally took their meals. It contained the main source of heating; a large 19th century cast iron range which burned peat. There was a sink with a drain, and a tap which probably drew its water from the stream a little higher up. A small adjoining room contained a flush toilet: I didn't enquire where it discharged! Next was a comfortably furnished sitting room. The only unexpected thing it contained was a handloom. It was set up with a partially-woven piece of cloth, so it was still used. They also followed another local custom. A bowl on the table was full of photographs, just ordinary family snapshots; they were there for visitors to browse through if they wished. There were further rooms, mostly bedrooms. Then there were stairs to the roof space, used mainly for storage. The house had electric light throughout, installed the previous year.

The family were of three generations: two grandparents, a son and his wife, and a five year old granddaughter. The women wore ordinary clothes, but the men were different. Grandfather still wore the traditional Faeroe national dress: very tight black jacket and knee breeches, white stockings, shoes with big silver buckles and a soft woollen hat shaped like a paper bag. Its top had a straight seam and lay over to one side. His son was up to date, or so he thought. He wore a brown tweed suit made from a very thick fabric, probably woven on their handloom. Although I saw them as curiosities, I had to accept that I was a curiosity myself. I was the first foreigner seen in Kvivik for ten years.

I then went to see the mill. It was very small, only slightly bigger than a large dog kennel. The end walls were dry-stone, connected with timbers and boards and covered with the usual turf roof. Inside, half the space was taken up by the hurst, with millstones about as big as a modest-sized hand quern. The other space, beside the door, was just enough for a person to hunker down in front of the hurst. No other position was really possible. Outside, it was built over the stream with the bottom of the vertical shaft supported by a hollowed stone, set in the stream bed. Upstream of the mill, boulders and earth had been used to make a dam, with boards used to form an inclined trough to direct water against the side of the small wheel. The upper end of the trough was closed by a sluice gate. This was just a removable board which could be pulled out and laid on the grass to run the mill.

I took some photographs, made sketches with dimensions, and was then called in for the evening meal. Then I was given a chair in a small room and Grandfather came in to talk with me, it failed. We couldn't understand each other at all. He soon went out and his son came in. At first, we could do no better. Then I thought, I had managed well enough in

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Denmark, so what is wrong? Spoken Danish is difficult to follow at the best of times, so the problem here must be our accents. I always found reading easier, so why not try it here? I wrote a sentence in Danish and handed it to him. It worked! His face lit up and he called out, “Han skriver godt Dansk!” I wasn’t so sure a Dane would think my written Danish was that good, but so what? It was obviously good enough! They all came in then, and we began a long conversation (or was it a correspondence?). That set the pattern for the rest of my visit. For simple things we sometimes spoke, but mostly we conversed on paper in what was a foreign language for all of us.

Next morning I started on the mill. They had ceased using it but it was still in working order, so to run tests I had to work it myself. I bought some barley at the village shop. As I had no scales, I had them make it up in 1 kg packets. The mill had just two adjustments: tentering and a twist peg to adjust the feed by altering the angle of the shoe. Its tentering system was something I have never seen or heard of elsewhere and I believe to be unique. Instead of lifting the lower bearing of the spindle, the bedstone was adjusted by lifting the front end of the hurst and putting a pair of wedges underneath. That raised another question which remains unanswered; why was such a simple and obvious idea not used elsewhere? Of course it was not suitable for normal sized millstones, but there were other places with very small mills where it could have been used. So why was it not?

I had no experience of operating a mill so I ran a series of tests with the adjustment settings covering the whole range where it would run steadily. The water could only be on or off, so for each run I only had to choose a setting for the tentering and then set the feed for as much as it would take. All I need do to find its grinding capacity was to record the time it took to grind a 1 kg packet at each setting. When I had found what it would do, I still needed to know what they actually used to make. It took seven times as long to make a kilo of the finest meal as it did to make that much of the coarsest. I took all the meal I had made to grandfather and asked him what he thought of it. Would he ever have made the coarsest and what might he use it for? He said yes, sometimes, it would be good food for the chickens. The finest he pronounced ‘very good’; just what they wanted for cooking. Something in between would be good enough for most other purposes.

I realised I had just learned the most important lesson from the whole visit. In all the articles I had read about some ancient mill, statements of how many people it could feed were meaningless. It all depended on what grain was being ground, and what product was made from it.

I decided I had learnt all I could from running the mill but later I realised I had made a mistake. I did not know enough about the meal I had ground. I could have done no more out there, but I should have kept samples. Back in England, I could have had them analysed but I did not think of it and the chance was lost.

I still had another day in Kvivik, but I didn’t spend it in the mill. The Baerentsens wanted to show other things about their daily life. They practised mixed farming, but mainly livestock. The buildings included a small wooden shed for storing meat. The boards were set vertically with gaps between them to allow the wind through, for the main thing it held was ‘skærpekød’; wind-dried mutton. A whole side of mutton was hung up to dry for months before it was ready, and it was eaten raw. Often they

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would go in with a pocket knife and cut a slice, as a snack. Of course I was offered a piece to try. It was quite edible, but with little taste.

They also showed me what they wove on their hand loom. They had a spinning wheel in the attic. It was a 'great wheel' which spun on a plain spindle without a flyer. The son demonstrated it and then asked me to try. I showed I could do it, although I only attempted a coarse yarn.

Of course they had questions about me. Where did I live? What was it like? What did I do? I tried to explain what life was like in a London suburb, and working as an electronic circuit designer, but I doubt if they understood very much of it.

The following afternoon a voice from outside called, "Bilen venter!" (The car's waiting!). I went out and there it was with the whole family round it. They had already put my baggage in the boot. The son handed me a small package with the word, "Mad!" (Food!). I was bundled into the car and it took me across to a small harbour on the northern side of the island. The boat was approaching and it took me back to Tórshavn and the hotel.

The food wholesaler suggested we went to the cinema, and we did. The main feature was a French comedy; Les Belles du nuit, by Rene Clair. I had seen it in London but it was good enough for me to enjoy it again, but this time it was different. In London it had English subtitles, but in Tórshavn the subtitles were in Danish. The Aberdeen wholesaler knew neither Danish nor French, so to help him follow the plot I had to try to translate as many of the titles for him as I could.

The ship arrived next day and when I went aboard I met the rest of the British party. One of them asked me, "We saw you standing on that boat, but we didn't see you again. Did you actually go anywhere on it?" I told them where I had been, and then I heard what they had done. I thought it was rather little. Before returning, the ship spent nearly a week, visiting two ports on other islands in the group. Instead of lodging ashore, they decided to eat and sleep on the ship. They may have been comfortable, but I thought they had missed out. The ship left late that afternoon and reached Lerwick next morning. They all disembarked but I stayed, and next morning I was in Copenhagen. It was back to normality. I had a week in Denmark, meeting Anders Jespersen and visiting more mills. There was no more adventure; just visiting a familiar country and a commonplace journey home by train and ship.

I can look back on what was more than my first experience of a horizontal watermill. It was my first adventurous journey, to a place which can now be reached easily by a routine regular flight. It was also a visit to a society with a way of life which was just at the start of substantial change. A visitor like myself could see what was about to happen, although many of the inhabitants could not. I have never been back, but I know it has happened. Television has reached them. International telephone calls can be made easily, not having to book a slot on one of just two lines hours in advance. Getting from one island to another no longer depends on small boat services which were frequently interrupted by bad weather, for all the main islands are connected by road tunnels.

These are the big changes. There must be many other small changes in their daily life, but I will never go there to see them. If I visited the islands again, instead of seeing change, I would just see what I see at home.

CHINA

A Visit to China, text by Leo van der Drift and photographs by Diederik Wijnmalen.

This is an account of the most interesting molinological finds during our visit to China in April 2017.

1. The Water-Powered Devices of Huanglongxi.

Huanglongxi is one of several towns in China's interior province of Sichuan that advertise themselves as "ancient". Being close to the major cities of Chengdu (11 million inhabitants) and Chongqing (8.5 million) it attracts lots and lots of (predominantly Chinese) visitors, strolling along the cobblestoned, narrow and colourful streets, and browsing the overwhelming amount of shops and stalls that can be found here. Along the full length of Main Street, a (once natural) stream runs from the waterfall at the northern end (Fig. 1), to a branch of the Fuhe River at the southern end.



Fig. 1

Along this stream a fairly large number of water-powered devices are erected, some of which have been brought over from elsewhere while others are newly constructed. Although explanatory signs are lacking, these devices nevertheless give the visitor a nice overview of the many applications of water power in this part of the world. From north to south: the first device is an



Fig. 2

edge runner, driven by a wooden horizontal waterwheel (Figs 2 and 3). This rather worn edge runner seems to have been brought from elsewhere. It was probably used to crush oleaginous seeds. A little further on, a corn mill stands beside the stream, also driven by a wooden horizontal wheel.



Fig. 3

Fig. 4



Fig. 5



Fig. 6

Note that the lower stone is the rotating one, while the upper stone, hanging on ropes, remains motionless! Tentering is done in a very easy and practical way, by twisting or untwisting the ropes by means of a wooden stick. This mill was probably used for grinding grain (barley is common here!), corn or perhaps rice (Figs 4, 5 and 6).



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Fig. 7

subsequently falls down again into a stamping pot. Such devices were often used for pounding rice. Unfortunately, stamps or hammers are not installed, and several cams are missing (Fig. 7). A little further on one can see a similar waterwheel with camshaft installed, but this one with 2

cams fitted on each side of the wheel. Again, no stamps or hammers. Not water-powered, but man-powered is this small treadwheel for irrigation purposes. It has a scoopwheel on each side. Your editor is showing how it is operated (Fig. 8).

At the end of the stream, where it

Next stands a newly constructed vertical waterwheel that was designed to drive a stamping device with vertical stamps or hammers. The wheelshaft is constructed as a camshaft, equipped with 4 cams on each side of the wheel. As the shaft turns, the cams each lift a stamp that



Fig. 8



Fig. 9

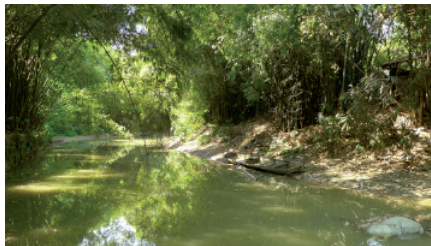
enters the river branch, a pair of ornamental norias have been erected (Fig. 9).

Finally, in one of the side alleys, we came across a handmill. Handmills must have been very common in the past, as we saw quite a few on display during our journey, for sale in markets and as ornaments in gardens, as pavement, etc. This one, with its wooden stick for turning the upper stone and the stone saucer on which the meal is collected, is complete and could still be used (Fig. 10).



Fig. 10

2. The Bridge Mills of Chen Jia Shui.



The bypass seen upstream

told back in Huanglongxi! The stone bridge has three arches and leads across a bypass of the nearby Fuhe River. Underneath each of

Not far from Huanglongxi is the village of Chen Jia Shui. The directions we received were rather vague, but eventually we found the bridge mills of which we had been



The bridge seen from upstream

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The bridge seen from downstream

The upright wheelshafts each drive a small edge runner situated on top of the bridge. There are no gears, so each rotation of the waterwheel results in one rotation of the edge runners. We were not able to find out what was produced here.

Unfortunately, this special mill complex is no longer in use and makes a desolate sight. Although almost everything seems to be still in place, it is no longer in a working condition. In fact, one of the wheel chambers was so full of debris that the wheel could hardly be seen. A sad situation indeed when one realises that this is an authentic mill site which is still largely intact.

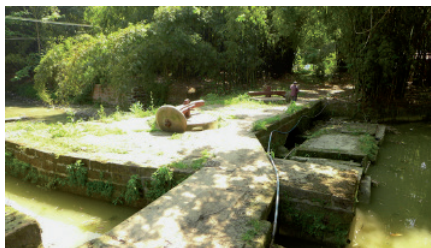
the outer two arches a big, horizontal wheel is installed, with an estimated diameter of 3 meters each. The water was fed to the wheels in an open stone leat of little inclination.



Waterwheel with stone leat (right)



Waterwheel with debris



The edge runners on top of the bridge

Edge runner No 1



Edge runner No 1



Edge runner No 2



Sluice board



Sluice board

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3. Lanzhou Waterwheel Expo Park

Lanzhou is a city of some 2.5 million inhabitants on the banks of the famous Yellow River, in the western province of Gansu. Although Lanzhou is probably not very well known to our readers, it definitely offers one of the molinological highlights in China. The area has a semi-arid climate, which means that agriculture is only possible when the fields receive sufficient water. In 1556, governor Duan Xu brought the idea of using a noria to Lanzhou, which he had seen while visiting Yunnan province in the south of China. He developed it in such a way that it could raise the water from the river up to a height of at least 15 meters. Since then, numerous large norias were erected along the banks of the Yellow River, leading its water to the nearby fields, as old postcards testify (Fig. 1). It is here in Lanzhou that the water raising wheel came to perfection. As recent as 1952, there were still 252 norias in the Lanzhou area, hence Lanzhou's nickname "City of Waterwheels". Since then, the number



Old postcard showing a row of giant norias near Lanzhou (coll. Leo van der Drift)



of norias has dropped dramatically.

In order to retain at least some of this past, in 1994 the Waterwheel Expo Park was created stretching along the south bank of the Yellow River for about 1 kilometer. In the park, 12 huge norias can be admired, all-wooden constructions arranged in pairs and with a diameter of about 16.5 meters. It is an impressive sight, because most of the wheels turn slowly, raising water that is transported through wooden laun-



ders throughout the park to power a large number of other devices. The accompanying photographs give an impression of these giant wheels (Figs 2-9). At a separate location, a few kilometers to the west, two more wheels can be seen (plus a deteriorated mill house with a huge horizontal wheel underneath).



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Impressions of the 12 big norias in Lanzhou's Waterwheel Expo Park.



Apart from these norias, there are a number of other mill objects on display in the park, like small norias, a set of water-powered rice stamps, an edge runner, a hand-powered bucket chain and a working corn mill with horizontal wheel. I plan on presenting these in one of the next issues of E-News.

4. The Tibetan Watermill in Xiahe.

Xiahe, a small but colourful town at the edge of the Tibetan highlands at an elevation of almost 3,000 meters, is home to the Labrang monastery, one of the largest Tibetan Buddhist monasteries outside the Tibetan Autonomous Region. Watching the monks dressed in red and the crowds of devoted pilgrims, who have come from far and near to visit the monastery with its numerous temples and stupas, turning the hundreds of prayer wheels along their way, is very impressive indeed (Fig. 1).



1. A row of prayer wheels at the Labrang Monastery.



2. Ivory and silver butter churn in the Labrang Monastery Museum.

The area is largely rural. In summer, herds of sheep and yaks are grazing on the surrounding grasslands. The yaks give milk, of which butter is made (with a distinctive smell and taste). Incidentally, the Labrang Monastery Museum houses a special exhibit: the world's most expensive butter churn, made of ivory and silver, and decorated with an elephant's head (Fig. 2). Not far from the Labrang monastery, in the village

of Zangjiale, a corn mill can be found that is still commercially working. During our visit, a customer came to bring a number of sacks of barley, to be milled into what is called tsampa, meal that is widely used here for



3. The watermill, seen from downstream.



4. The watermill, outside view.

making porridge and pancakes. As the miller was busy attending to the customer and helping him with his sacks, the mill was not running, but we were welcome to look around.

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The mill itself is a small, low building with a curved, gabled roof, covered with pantiles. It has two rooms. The southern part, of brick and stone, serves as the miller's quarters, while the northern part, built across a bypass of the river Daxia, has wooden walls. This bypass or channel, that brings the water to the mill, is several hundreds of meters long. The water is brought onto the horizontal wheel through a wooden pipe. It is open at the end, so without a nozzle. The wheel is made of wood and has a diameter of appx. three meters.



5. The water channel.



6. The wooden waterwheel.



7. The mill room.



8. Close-up of the stones.

Inside, the machinery is simple but efficient. On top of the shaft of the horizontal wheel a thick horizontal beam is fastened carrying the lower stone, which again, as described in the chapter on Huanglongxi, is the stone that turns. The upper stone, much thicker than the lower one, is hung to ceiling beams by four thick ropes. In order to stabilise the stone sufficiently, two additional ropes are fastened to poles placed on the left and right of the stones. By twisting or untwisting these ropes and securing them with a stick, the distance between the stones can be adjusted. As the upper stone does not move, the hopper can be placed

directly on the upper stone.

There is no stone vat, the meal simply comes out from between the stones and falls down onto the floor, from where it is scooped into bags. A square wooden surround prevents the meal from spreading around.

This completes the most interesting sites that were visited. In one of the upcoming issues of E-News, a few other places will be shown.



9. The surround to collect the meal.



10. The miller testing the quality of the barley.



11. Miller and visitor.

USA

A Note Further to Charles Hockensmith's Articles in I.M. re Millstone-Related Accidents & Fatalities in The U. S. A., by M. J. A. Beacham.

A preliminary check of on-line historical newspapers in the UK shows few accidents caused by bursting millstones in corn mills, due probably to the use of iron-banded French burrs for flour making, which was wide-spread by 1800. Those stones which did cause accidents by breaking up seem to have been either monoliths in remote country corn mills, or stones in other industrial mills. In this respect,



Needle Mill, Redditch, scarred wall.

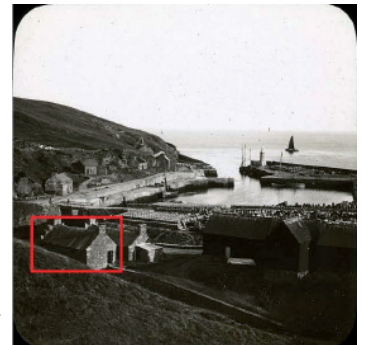


the disintegration of the stones is similar to that found in the grindstones used for pointing in needle mills, such

Needle Mill, Redditch, marker stone "EM 1816".

as that at Redditch, Worcestershire, now a museum, (Figs 1 & 2).

Examples of the former come from two Scottish mills. At the Mill of Kilmachalmack, in Kincardine, Ross-shire, "While the miller and several others were at work in the mill, the upper mill-stone broke, and the miller and a young man were killed by the splinters." (from *Caledonian Mercury*, 19th March 1821). At Lybster Mill, in the parish of Reay, Catherine Campbell, a labourer's wife, lost her life in 1853. "The poor woman was sifting meal in the mill when suddenly the millstone broke in two, a piece of which struck her in the head, laying open the brain." Her death meant an official investigation, because "The accident occurred by the culpable negligence of the miller, in leaving the mill in charge of boys, while there was too great water power on the wheel." (from *The Morning Post*, P470/34); mill is far left/centre following John O'Groat Journal, 24th March 1853; Fig. 3).



Photograph of Lybster Harbour from the North (Ref GB1741/P470/34); mill is far left/centre (courtesy of Caithness Archives).

One example of the latter shows that skilled workers were not immune from disaster. John Mayhow, aged 58, a mill-stone dresser, was working on a stone at Messrs Lawes's chemical works when the band of the millstone burst and the stone flew to pieces and struck him. William Sharpe, a fellow stone dresser witnessed the accident and stopped the engine powering the stones. He saw that the top iron band of the stone was broken. A verdict of "Accidental Death" was returned by the coroner following the evidence of a surgeon who said that death was due to exhaustion consequent upon the injuries to Mayhow's left leg. (from *Reynolds's Newspaper*, 15th June 1884; Fig. 4).

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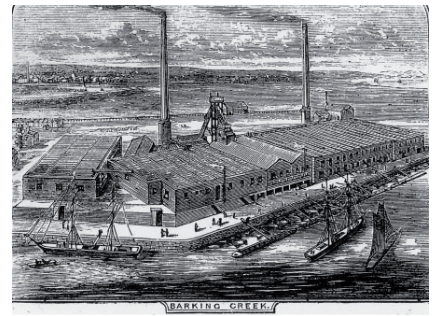
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In another industrial accident, Herbert Chesham, aged 18, of Hornchurch in Essex, was killed by the bursting of a millstone while he was working at Messrs Dendy & Co's ironworks. "The fragments of the stone flew with terrible force, and a large piece struck Chesham in the back. One portion was hurled a distance of 97 yards." The inquiry was adjourned to enable the coroner's jury to view the works, and for the attendance of the Factory Inspector. (from Lincolnshire Echo, 31st August 1901).



Lawes & Co, Barking Creek (courtesy of LBBB Archives, Valence House).

So far as corn mills in England are concerned, instances of unfortunate millers becoming caught up in their own machinery are far more numerous than those of bursting millstones, but as Mister Hockensmith said in his paper, more research in other countries needs to be done into this aspect of milling with stones.

PORTUGAL

TIMS member Tjerk Oosterhuis sent us a few photographs of norias that he took while in the Algarve, in the south of Portugal, earlier this year. Originally these norias were animal driven, but after World War 2, many were changed into engine powered devices. There are still quite



a few of these machines to be found in the area, but almost none are in operation these days. Note the difference in construction. There are small ones, some of natural stone and others whitewashed. The more modern ones are of concrete, and often of a larger size.



The moving parts, originally made of wood, are now all of cast iron. Thanks for sharing these pictures with us, Tjerk!



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UNITED KINGDOM

Please see attached news from Eling Tide Mill [here](#).

Feel free to pass this information on to members as this mill is closed for 2017.

Best regards

David Plunkett

e-mail: david@millbowl.co.uk

FINLAND

Stipendium for Research on Finnish Windmills

On Tuesday 16 May 2017, TIMS member Kirsti Horn received a stipendium of 7,000 EUR for her windmill research in the province of Varsinais-Suomi.

The stipendium was awarded during a festive meeting in Naantali near Turku by the Suomen Kulttuurirahasto (a charity trust), in the presence of TIMS President Willem van Bergen and your editor of E-News, Leo van der Drift.

Kirsti, an architect specialised in traditional wooden buildings, started her research in 2015 and has since developed a research strategy. See also her letter in E-News No 20 (Spring 2016). The research should not only lead to more knowledge, but also arouse more interest and thus save the mills that are still left.

The province of Varsinais-Suomi is in the southwest of Finland. At least 125 windmills are still standing in this province, making it the most windmill rich province in the country after Åland. The majority are post mills, but there are also a number of hollow post mills and smock mills. The most famous one is Samppalinna windmill in Turku, a big city smock mill with reefing stage that worked commercially. It is Kirsti's and other mill enthusiasts' biggest wish to bring this mill, that still has most of its machinery, back to life.

We congratulate Kirsti with this substantial financial support and we wish her all the best.



Kirsti Horn proudly showing the stipendium certificate (photo Leo van der Drift).

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Restoration of Malilansaari windpump.



*Malilansaari windpump in May 2017
(photo Leo van der Drift).*

In 2014, the neglected windpump at Malilansaari farm, in Riistavesi, Kuopio municipality, Pohjois-Savo province, was brought over to the local open air museum and fully restored. It now stands proudly at a short distance from the post mill that was already there.

The windpump, that was believed to be erected in the 1920s, is of the “Climax” brand, produced by

Thomas & Son of Worcester, England.

The extensive restoration of this windpump was captured on film, which is available on YouTube.

See <https://www.youtube.com/watch?v=8bIOHjrmK1A> .

AUSTRIA

TIMS Council Member Heinz Schuler spotted an old film on the Alpine mills in the Lesach valley. Of particular interest are the rope drives. See <https://www.youtube.com/watch?v=QJRGjnuhNmw> .

ITALY

Researchers in Italy claim to have found the oldest millstone in the world. They have demonstrated that a stone discovered in the Paglicci cave (Puglia region) was used to grind oats as long ago as 32,000 years!

The team of Marta Mariotti Lippi (University of Florence) analysed the stone discovered in the Paglicci cave in 1989 and established that it was used to grind oats. The Gravettian hunter-gatherers (Upper Palaeolithic phase) crushed the grains with this stone to prepare semolina or bread, according to the Proceedings of the National Academy of Sciences. This is evidenced by the remains of starch detected on the surface of the stone. Before grinding, our ancestors heated the grain, probably to accelerate their drying and thus facilitate grinding. It also probably made it more resistant to the cold, damp climate that prevailed on the planet.

According to the researchers, active use of plants played an important role in cooking in the Stone Age. The inhabitants of Paglicci cave were therefore able to cook grasses well before the beginning of agriculture (9,000 years before our era).

(found on the Internet at:

https://fr.sputniknews.com/sci_tech/201509131018137675/).

UK

TIDE MILL INSTITUTE

To all friends of the TIDE MILL INSTITUTE ,

I'm pleased to forward the latest issue of our newsletter, TIDE MILL TIMES, which announces our upcoming October conference and describes my experience at an outstanding tidal energy conference in Rennes, France. You can download it [here](#).

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We hope you find it of interest and hope to continue sharing our mutual interest in the fascinating study of tidal energy and historic tide mills.

Sincerely,

Bud Warren, President TIDE MILL INSTITUTE

www.tidemillinstitute.org

BARBADOS

New Stamps from Barbados and the UK

Barbados Sugar mills

In June 2015, Barbados issued a set of four stamps depicting four of the island's sugar mills. From the accompanying brochure we learn that Barbados, with 500 windmills, once had the second highest number of windmills per square mile of any country in the world. They were instrumental in helping to establish the sugar industry on the island because of the ability to use the power of the wind to crush the sugar cane that had been harvested on the plantations.

Once a commonplace sight all over the island, now only about 30 remain, of which only one is in working order (at Morgan Lewis estate, St. Andrews).

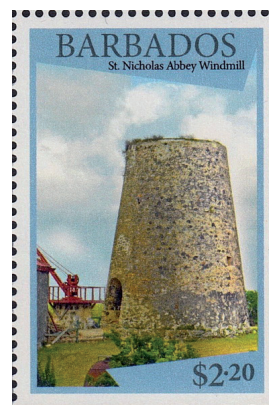
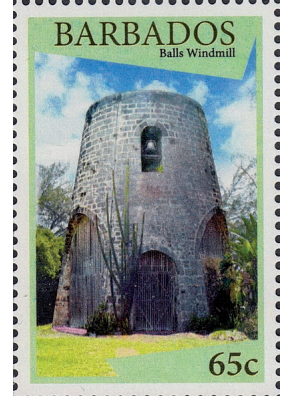
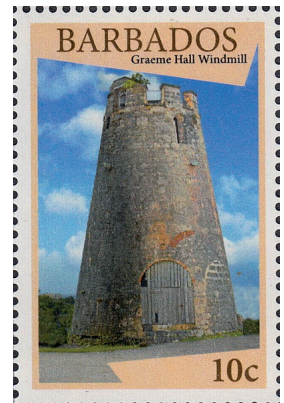
The mills depicted are:

Graeme Hall Windmill, Christ Church (10 c)

Balls Windmill, Christ Church (65 c)

St. Nicholas Abbey Windmill, St. Peter (\$2.20)

Morgan Lewis Windmill, St. Andrews (\$2.50)



UK

UK Royal Mail Windmills and Watermills

Much to everyone's surprise, on 20 June 2017 British Royal Mail issued a set of 6 stamps depicting windmills and watermills, after several attempts in the past by the SPAB's Mills Section to persuade British Royal Mail to do so had failed.

Some of the UK's windmills and watermills are over 400 years old and many of them are still in working order. As a tribute to these iconic structures, Royal Mail (in close collaboration with the Mills Section) chose three windmills and three watermills from around the UK to be

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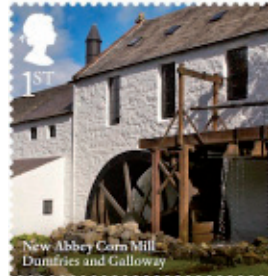
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depicted on the stamps. They are:

Nutley post mill, Sussex

Woodchurch smock mill, Kent

Ballycopeland tower mill, county Down, Northern Ireland

Cheddleton Flint Mill (low breastshot wheel), Staffordshire

Felin Cochwillan (high breastshot wheel) at Tal-y-bont, Bangor, Gwynedd, Wales

New Abbey Mill (overshot), Dumfries & Galloway, Scotland

British molinologist Martin Watts prepared a brochure, containing an introduction on the history of milling and a description of the six mills in detail. Please [click here](#).

UK

Mill links, mostly from the UK, received from William Hill.

The file with links from William Hill can be seen [here](#).

INTERNATIONAL

Internet links, by Robbert Verkerk.

Spain

<http://www.regmurcia.com/servlet/s.SI?sit=c.522,m.205>

Good description of windmills, watermills and norias in the region of Murcia

<http://www.mallorcawindmills.com/english/types.html>

Nice site about windmills on Mallorca with rough maps of their locations and information about the different types.

<http://www.conselldemallorca.net/sitmun/idemallorca.jsp>

Detailed information with a map of the exact location of windmills, pumping mills and olive oil factories in a large part of Mallorca.

France

<https://www.geoportail.gouv.fr/>

Google maps for France with interesting options. Bird's-eye views can be combined with overlays of detailed maps and historic maps like the Cassini maps.

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Portugal

http://siaram.azores.gov.pt/patrimonio-cultural/moinho-vento/_intro.html

Site with information and windmill locations on the western islands of the Azores.

Italy

http://www.mulinidisardegna.it/index.php?option=com_content&view=featured&Itemid=22

Site about the mills of Sardegna with a very good map and descriptions and pictures of the water mills on the island.

POLAND

Multidisciplinary Scientific Seminar

“Watermills Within the Lower Vistula Basin Since the Beginning of the 18th Century to the Beginning of the 21st Century”

Organisers: Institute of Geography and Spatial Organization of the Polish Academy of Sciences in Warsaw and Faculty of Fine Arts of the Nicolaus Copernicus University in Toruń

Venue: Toruń (Northern Poland) – main building of the Faculty of Fine Arts, Nicolaus Copernicus University

Date: May 26, 2017

The Seminar was attended by 60 researchers from 15 scientific units from all over Poland and from 3 open-air museums. During four plenary sessions, 15 oral presentations were delivered and 19 posters were presented. Invited lecturers were grouped into two thematic panels.

1. **Watermill as an Object of Multidisciplinary Research** (chairs: Dr. Dariusz Brykała and Dr. Maciej Prarat):

Prof. Rafał Kubicki (Gdańsk University)

Milling development during the period of functioning the state of the Teutonic Order.

Prof. Zbigniew Podgórski (Kazimierz Wielki University)

Environmental conditions and consequences of the watermills' functioning in the Chełmno Lakeland.

Dr. Arkadiusz Bartczak (Polish Academy of Sciences)

Operation of watermills from the hydrological point of view - on the example from the Kujawy region.

Prof. Urszula Sowina (Polish Academy of Sciences)

Water management in Late Medieval and Early Modern towns, with particular emphasis on the role of watermills.

M.Sc. Tomasz Górczyński (Nicolaus Copernicus University)

How was the Late Medieval mill built? Interdisciplinary archaeological research of the watermill in Mniszek, Świecie Land.

Prof. Jan Święch (Jagiellonian University)

Protection of watermills in open-air museums in Poland.

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2. Watermills Within the Lower Vistula Basin During the Last 300 Years (chairs: Prof. Zbigniew Podgórski and Prof. Jan Świąch).

The research team of Dr. Dariusz Brykała (Polish Academy of Sciences) and Dr. Maciej Prarat (Nicolaus Copernicus University) presented eight papers with results of the scientific grant: “Watermills within the lower Vistula basin since the beginning of the 18th century to the beginning of the 21st century”, which is financed by the National Science Centre (grant No. DEC-2011/03/D/HS3/03631-

http://www.igipz.pan.pl/project_en/events/mlyny-wodne.html).

The project started in 2012 and runs until 2018. The following papers were presented:

Four papers covering archival, cartographical, encyclopedic, and iconographical sources for studies of watermills’ network reconstruction.

Changes of watermills’ network locations during last 300 years.

Reconstruction of boat mills’ locations on the Vistula and its tributaries.

Contemporary state of preservation of watermills.

Watermills as components of lost landscapes.

During the poster session participants presented examples of multidisciplinary studies concerning watermills, including: geographical, archaeological, ethnological, historical, architectural, and monument preservation.

Volume of the Seminar Proceedings (in Polish) can be found under the DOI number: <https://doi.org/10.7163/Konf.0001>.

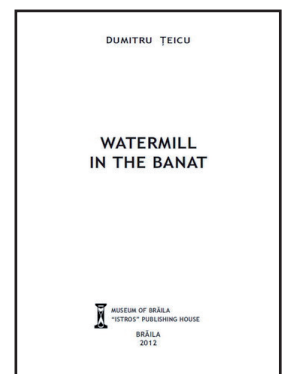
PUBLICATIONS

Book Corner, by *Leo van der Drift*.

Presented here are a number of recently, and a few less recently, published mill books that were brought to our attention. Please note that prices are indicative and postage comes extra, unless stated otherwise.

1. **Watermill in the Banat**, by *Dumitru Țeicu*.

The Banat is the westernmost part of present-day Romania, with Arad and Timișoara as the most important towns. Watermills have a long history in the Banat. The oldest reference dates back to the 13th century. This is probably the first in-depth study of the watermills of this area. After a few introductory chapters, the author subsequently describes watermills with a vertical wheel (all disappeared now), boat mills (all disappeared now too) and watermills with a horizontal wheel. The last category has always been the most numerous here and consequently gets the most attention. Detailed descriptions, measured drawings and photographs of



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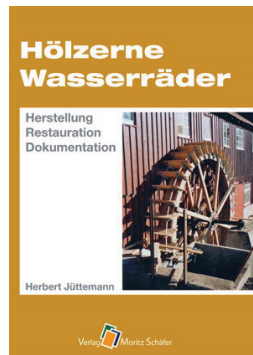
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66 surviving mills are given. In English.

Brăila/Reșița, 2012. 386 pages, richly illustrated, mainly in b&w, with a separate section of coloured photographs. Available as a free PDF download at http://www.muzeulbanatuluiimontan.ro/images/ro/Biblioteca_electronica/Arheologie_si_etcnologie/Teicu%20Dumitru%20-%20Watermill%20in%20the%20Banat.pdf

2. Hölzerne Wasserräder. Herstellung, Restauration, Dokumentation, by Herbert Jüttemann.



The author has written a number of books and articles on watermills in the SW of Germany and the Alpine countries. This latest book was written with the purpose to preserve the knowledge on the construction of wooden waterwheels. It is a technical work describing such parts as the wheelshaft, bearings, spokes, and buckets, in great detail. In German.

Large size 215 x 300 mm, 238 pages, hard cover, richly illustrated with drawings in b&w.

Verlag Moritz Schäfer, Detmold, 2017. ISBN 978-3-87696-155-2, price 79,90 EUR. To obtain a copy, visit the website of the publisher: <http://www.vms-detmold.de/de/>

3. Wasserkraft in Augsburg, by Franz Häußler.

Augsburg is a major city in Bavaria, west of Munich. As the city is on the River Lech water power has been used here for a long time. In 1761 there were no less than 78 watermills, of all different functions, with a total of 180 waterwheels, working in the city. This is perhaps not surprising, as the total length of waterways within the municipality of Augsburg, including the many side branches of the river and artificial canals, is 200 kilometers! This book deals not only with historic watermills and pumping stations, but also with present-day water power used in the city's 40 hydro power stations that generate electricity for over 40,000 households.



In German. Size 215 x 285 mm, 216 pages, hard cover with dust jacket, 186 illustrations in full colour.

Stadtwerke Augsburg, Augsburg, 2015. ISBN 978-3-939645-85-6. Price 24.90 EUR. Available from www.amazon.de.

4. Mühlen der Oberlausitz einst und jetzt, by Frank Nürnberg.



The Oberlausitz is an area in the southeast of Saxony, close to the border with Poland and the Czech Republic. The hilly landscape with many small rivers is ideal for watermills, and these have been the most abundant here. But there were also windmills; tower mills and, for which the area is famous, big, sturdy post mills. This book presents more than 500 mills of this area. Of each mill, its

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history is described briefly and, when possible, illustrated with a historic and a contemporary photograph. In German.

Size 245 x 285 mm, 208 pages, hard cover, richly illustrated in full colour.

Oberlausitzer Verlag, Spitzkunnersdorf, 2015, ISBN 978-3-941908-727. Price 19.95 EUR. To obtain a copy, visit the website of the publisher at <https://oberlausitzer-verlag.de/index.php>.

5. Mühlenlandschaften. Beflügelndes Minden-Lübbecke, by *Christian Helming*, with photographs by *Widbert Giessing*.

A photographic, coffee-table book featuring the well-known “mill district” of Minden-Lübbecke, in Northrhine-Westphalia county. There is a short introduction for each mill, followed by a number of simply stunning photographs, often of full page size. As the title suggests, the mills presented are mainly windmills, but one or two watermills and an horse-mill are also shown. In German.

Size 250 x 295 mm, 128 pages, hard cover, richly illustrated in colour.

Com.on werbeagentur, Minden, 2014. Price 24.95 EUR. Available from Verlag Moritz Schäfer, <http://www.vms-detmold.de/de/>.



6. Die Bockwindmühle von Lumpzig im Altenburger Land, by *Andreas Klöppel et al.*

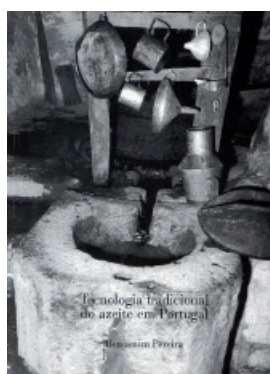


Richly illustrated publication of a technical monument, built in 1732, making it one of the oldest windmills in Thuringia, that was saved from dereliction by public initiative. In German.

Size 200 x 280 mm, 128 pages, hard cover, illustrated in b&w and four colour printing.

Altenburger Bauernhöfe e.V., in collaboration with the Landesarchiv Thüringen – Staatsarchiv Altenburg, 2017, ISBN 978-3-95755-030-9. Price: 19.80 EUR. Available from the publisher, Verlagsgruppe Kamprad, at <http://vkjk.de/home.html>.

7. Tecnologia tradicional do azeite em Portugal, by *Benjamim Pereira*.



An older study that presents a detailed account of traditional olive oil making in Portugal. Illustrated with numerous drawings and photographs, making it also interesting to those who do not have a sufficient command of the language. In Portuguese.

Size 170 x 230 mm, 160 pages, paperback, illustrated in b&w.

Idanha-a-Nova, 2005, ISBN 972-8285-33-5. Price 25 EUR. Available from the publisher, Câmara

Municipal de Idanha-a-Nova, at <http://www.cm-idanhanova.pt/>.

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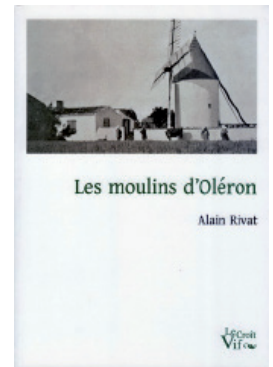
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8. **Les Moulins d'Oléron**, by *Alain Rivat*.

The Île d'Oléron is an island in the Biscay Bay, close to the French mainland. It is part of the department of Charente-Maritime. Being exposed to the prevailing western winds from the Atlantic, the island once had 120 windmills. In this booklet, the author describes 82 of them. The work is illustrated with historic as well as modern photographs and map fragments. In French.

Size 168 x 240 mm, 128 pages, paperback, illustrated in b&w.

Le Croît vif, Saintes, 2016, ISBN 978-2-36199-537-9. Price 22 EUR. Available from FNAC, <http://www.fnac.com/>.



9. **Les Moulins de Juigné-sur-Loire**, by *Christian Cussonneau*.

The French regional mill association of the Anjou regularly publishes special issues. The latest in these series, No 11, describes all 23 mills that once existed in one of the municipalities in their area, Juigné-sur-Loire. The mills described are mainly windmills, with the exception of three boat mills that operated on the Loire river. Most windmills were of the hollow post type, with a cave underneath, while only one or two were tower mills. Nowadays there are no complete mills left in Juigné, but a dozen or so caves and sometimes (part of) the tower still survive. The cover has a fine illustration showing the Grand Moulin de Montgilet. In French.

A4 size, 68 pages, paperback, illustrated in b&w and colour.

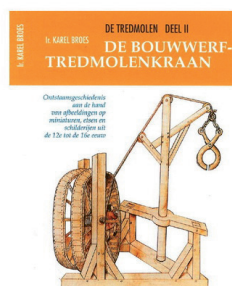
Association de Sauvegarde des Moulins d'Anjou, Angers, 2016, ISBN 978-2-9557626-0-8. Price 12 EUR. Available from the publisher at <https://sites.google.com/site/moulinsdanjou/>.



10. **De Tredmolen deel II, de Bouwwerftredmolenkraan**, by *Ir Karel Broes*.

This is the last publication by Karel Broes, published after his demise in November 2016, at the age of 91 (see the obituary in International Molinology, No 94, p 42). Karel Broes was highly fascinated by the technique of mills, not so much of the ordinary windmill or watermill, but especially in the technique of less studied devices.

Earlier publications by him were on boat mills and mills with waterwheels adjustable to the height of the water, water driven pumping stations, horse-mills, and treadmills. This is his second study on treadmills, and deals with cranes at construction sites. He describes the history of these treadwheel cranes based on depictions on miniatures, engravings and paintings from the 12th until the 16th century, although these types of cranes were certainly older and already known in Roman times. In Dutch, with short summaries in French, German and English.



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Vereniging Molenzorg Vlaanderen vzw/Molenecho's, Hooglede, 2017, 128 pages, richly illustrated in colour and b&w.

Available as free PDF download from the homepage of Vereniging Molenzorg Vlaanderen vzw, <http://www.molenechos.org/index.php>

11. **De molens van Galmaarden**, by *Hubert de Weerdt and Luc Cromphout*.

This is essentially an inventory of all wind and watermills that have existed in the municipality of Galmaarden, near Brussels in Belgium. The authors describe about 15 mills, of which only four watermills and an empty mill tower remain. In addition, the authors discovered an unknown dog wheel in a farm courtyard that had been used for churning butter. In Dutch. Size 200 x 200 mm, 128 pages, paperback, illustrations in colour and b&w.

Londerzeel, 2017. Price 16,95 EUR. To obtain a copy, contact the Stichting Levende Molens at molencentrum@home.nl.



12. **Molens, mensen, bedrijven. Overzicht van vijf eeuwen Harlinger bedrijfsmolens op windkracht**, by *drs. D M Bunscoeke*.



Harlingen is one of the eleven cities of Friesland in The Netherlands. It is Friesland's most important harbour and is also very much an industrial town. In fact, the largest concentration of industrial windmills of Friesland was right here, in Harlingen. The author, an archivist by profession, describes 35 windmills that worked here. They ground corn and peeled barley, sawed wood, pressed oil, made paper, cement, and dyes for paint, and there was a fulling mill and several tanbark mills. Of each mill, an historic account is given, with much attention for the families that were involved in the business. Today, sadly, not a single mill has survived, the last one being demolished during World War 2. The book is illustrated with map fragments and historic photographs. In Dutch.

Size 150 x 215 mm, 230 pages, hard cover, illustrations in colour and b&w.

Beilen, 2016. Price 25 EUR. To obtain a copy, contact the author at dick@bunscoeke.nl.

13. **L'odore del legno tagliato, Rèssegh e ressegatt, trentín e boratt in Ticino**, by *Tarcisio Cassari*.



A heavy book (2.35 kg!) on water-powered saw mills in the Swiss canton of Ticino. This in-depth study starts with a chapter on forestry and felling trees then the technique of the saw mill is presented. The second and major part gives descriptions of about 100 saw mill sites, some more detailed than others depending on the

resources available, but each at least illustrated with a site plan, measured drawings and some photographs.

In Italian, but because of the more than 350 illustrations also interesting to those who do not read the language. Size 265 x 265 mm, 454 pages, hard cover, over 350 illustrations in b&w.

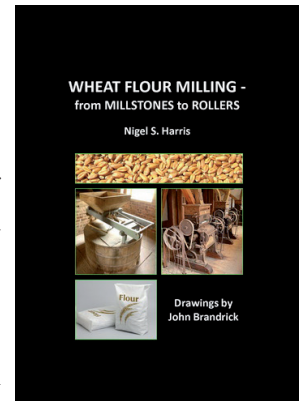
Centro di dialettologia e di etnografia, Bellinzona, 2016. No ISBN. Price SFR 60,-. Available from the publisher, website <https://www4.ti.ch/decs/dcsu/ac/cde/cde/>

14. **Wheat Flour Milling from Millstones to Rollers**, by Nigel S. Harris, with drawings by John Brandrick.

Flour milling underwent a radical change during the 25 year period from 1875 to 1900. The drive for the change came from continental Europe and the United States, where new flour mills had been built containing sophisticated machinery developed in an attempt to extract as much flour as possible from the wheat grain.

For a period the UK flour industry was resistant to change and unable to compete with the foreign competition. In the new mills metal rollers replaced traditional millstones which had been in use for more than 2000 years. Wind and water powered mills gave way to steam and eventually electricity as the mill's energy source. The traditional millstone mills could not compete and very quickly fell into serious decline. A4 size, 174 pages, hard cover, with over 600 images in full colour.

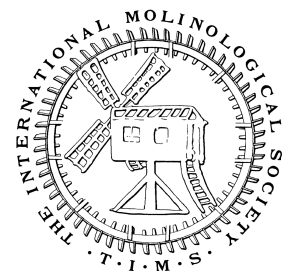
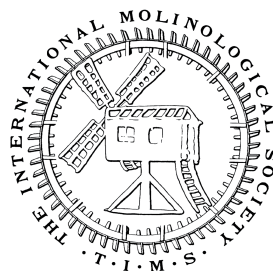
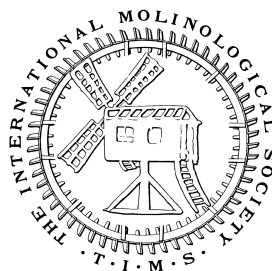
Published by the author, 2017, ISBN 978-0-95515-014-2. Price varies, £30 - £35.5 Available from The Mills Archive Trust, <https://millsarchive.org/>, Amazon, <https://www.amazon.co.uk/> and eBay.



Please remember to send us details on the books that you would like to see here next time!

MESSAGE FROM THE E-NEWS TEAM

We hope that you have enjoyed this issue of E-News. We are dedicated to spreading this information to all mill friends, so please feel free to forward it to anyone who might also be interested. And remember, if you



have any news items, short articles, books, announcements, photographs or anything else that you want to share, please send it to the editor, Leo van der Drift, lvddrift@telfort.nl. This Newsletter cannot exist without you! The next issue, Nr 24, is scheduled for March 2018.

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