

Scratch Marks

Stone powder as medicine?



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SCRATCH MARKS

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In the past, people scraped grooves and cups in, for example, the walls of churches and gravestones. The most logical explanation for this is the use of stone powder that was collected in this way for medicinal and other special purposes. To demonstrate this, we examined several explanations that have been suggested for this phenomenon over time. In doing so, we were able to remove all but the above mentioned statements from our list of possibilities as incorrect. We researched the medicinal uses of various stone powders and other special powders to show that there is nothing unusual about this practice. From using stone powder to scraping stone powder from church walls and other places is just a small step. We conducted experiments with extracting stone powder from different types of stone. We also found the fresh scratch marks that were created in that way at several locations in our research area.

Scratch Marks

Many years ago we visited the old Saint Nicholas Church (Sint Nicolaaskerk) in Denekamp (Twente) in the Dutch province of Overijssel, not far from the border with Germany, because we were looking for information about the application of Bentheimer sandstone. In Twente several churches have been built with this sandstone. On the other side of the border, in Germany, things are not much different. There, the castle of Bad Bentheim is located on a high rock of this rock and it was even built from this sandstone.

The Saint Nicholas Church in Denekamp is also built from Bentheim sandstone. When we examined the church, we discovered a number of deep vertical grooves (slits) in the shape of a boat on one of the outer walls. These grooves ran parallel. Later that day we were in Oldenzaal, also in Twente. The Plechelmus Church (Plechelmuskerk) in that town is also built from Bentheimer sandstone. Here we found the same strange grooves in great numbers.



Cups come in all kinds of sizes. Some are big enough to fit a hand in.

A literature search on the internet and in libraries taught us that the phenomenon must also occur elsewhere. Especially in Germany we found interesting information. We found the following statements:

- The grooves are the result of sharpening weapons such as swords and knives
- It was not allowed to enter the church with weapons during the service. Therefore the grooves were created because people placed the weapons against the outside wall before entering.
- The grooves are made by playing children.
- The grooves are caused by weathering.
- The grooves were created by striking 'new' fire at Easter or they are the result of creating 'new' fire through friction.
- Cups are caused by bullets or other projectiles.
- The cups were created by people turning their thumbs against the walls while muttering prayers.
- The grooves were created by collecting stone powder for medicinal and other special purposes.

We investigated all these explanations and discovered that only one could be correct: people scraped the powder off the stones to make life more bearable, for example by using it as a medicinal powder. For that reason we will call the grooves and cups in this booklet scratch marks.

Over the past years we have searched for scratch marks in The Netherlands, Belgium, Germany, Luxembourg and the northwest of France. During this search we found more than 480 locations (of which 175 in The Netherlands and 75 in Belgium) with such grooves and/or cups. In the early days of our research, we divided the scratch marks into three groups. We already mentioned the boat-shaped grooves and cups. We also found long, narrow and shallow grooves. Later it turned out that there were even more possibilities and variations. These belong to the same phenomenon, but they are sometimes not immediately recognizable as such to outsiders. Only by visiting larger numbers of locations with scratch marks did we become familiar with the patterns and transitional forms. Scratch marks that are difficult to interpret include long, narrow and very shallow grooves. At first sight you would say that they have nothing to do with the phenomenon. One of the locations where we were able to demonstrate the legitimacy of these different scratch marks is the Sankt Dionysius Church (Sankt Dionysiuskirche) in the German town of Belm. On the walls of that church we find such long, narrow and very shallow grooves that flow smoothly into the well-known deep boat-shaped grooves. This shows that several types can occur in a scratch mark.

The cups also show a transition of shapes. Many cups can be recognized as such. Cup shapes that are created by the impact of bullets and other projectiles have nothing to do with the phenomenon of scratch marks. However, recently we found such cavities caused by bullet impacts, which were then used to easily start extracting stone powder. So these cups for the extraction of stone powder had a bullet hole at the base.

Another newly discovered phenomenon are the hollowed out corner stones on church walls. We found them together with other scratch marks such as grooves.



Hollowed out corner stones also belong to the scratch marks

The types of scratch marks and the dominance of certain forms may vary from area to area. Some locations have deep boat-shaped grooves in rows next to each other with deep cupules in between. Other locations only have solitary deep grooves in several places of the church walls and in still other places we only find long, narrow and shallow grooves. Other combinations and occurrences are also possible. This often has to do with the type of stone used to extract the stone powder, but differences in 'tradition' can also have something to do with it.

In summary, we can say that it is difficult to give a good definition of the shape of scratch marks. The investigation of this phenomenon is certainly not a case of box thinking. Experience is an important factor in recognizing the different types of scratch marks.



Boat shaped grooves can be very deep.

Scratch marks as a result of weapon sharpening

This statement has been disputed in the past by other authors, but often without a good reason being given for its rejection. Perhaps that is why many people today still believe that the grooves were caused by the grinding of weapons. According to this explanation, knights and other warriors sharpened their weapons on the stones (such as walls) of religious buildings. In this way they expected these weapons as well as themselves to be blessed. As a result, they would be successful during the battle and return home safe afterwards. At first sight, this explanation sounds reasonable. Only, it is impossible to go through the boat-shaped grooves with the blade or edge of a sword, large knife, spear, halberd or similar weapon. These grooves are too deep and too short for this. In most cases it also proves to be impossible to get a good result with the long, narrow and shallow grooves. Most grooves are located in places that are not immediately easy to sharpen a weapon. For example, we find them in the corner of portals, near supporting pillars or just above the ground. Using these places to sharpen the weapons would cause discomfort such as abrasions on the hands or a sore back. In the recent past for example farmers had to sharpen their knives and scythes. For this they used hand grinding stones on which they left very different grinding marks; grinding marks that we absolutely cannot compare with the grooves from our research. Making a connection between the sharpening of weapons and the blessing of them is therefore an explanation that does not make any sense at all.



Scratch marks can occur as long, narrow and shallow grooves.

Scratches were created by weapons placed against the walls of churches

Scratches are said to be the result of weapons placed against the walls of churches because it was not allowed to take weapons into the church during the holy mass. If this happened repeatedly, grooves would form. We have to imagine that the grooves are often found in (long) horizontal rows. For such grooves to appear in such horizontal rows, the weapons must have all been the same length and of the same type. In other words: only swords, only spears, only halberds, and so on. And every time the warriors attended a religious service, they of course had to place their weapons in the same place to allow the relevant grooves to form. And how many times must they have attended a religious service to allow such deep grooves to form? And often in beautiful, more or less parallel rows next to each other! Many hundreds or thousands of times? If that were the case, there would hardly be time for anything other than sitting in church. No, it is impossible to cause the grooves this way. And besides, how should we explain the grooves just above the ground? In the past, people were smaller than they are today, but of course not so small that they had weapons of such a small size.

Playing children are responsible for the creation of scratch marks

It is sometimes suggested that playing children caused the grooves and cups. The only right thing about this is that children play. Playing is often a form of learning. Children learn from what they do.

A child learns nothing by making such grooves over and over again; it gains absolutely no valuable experiences from it. And making groove after groove just for the purpose of making grooves is very mind-numbing. Children don't do such mind-numbing things. Moreover, someone who wants to make such grooves or cups in sandstone, for example, needs the necessary muscle power. Most children will not have enough strength to keep this up long enough to make the scratch marks. Making scratch marks in hard stones is not something you do for fun. Children scratch in soft stones such as limestone (called 'marl' by the locals) in South Limburg in The Netherlands and in the Belgian province of Limburg. There they carve their names or the name of someone they are in love with, for example, into the limestone. Or they carve figures into it. However, these creations are very different from the grooves and cups we call scratch marks.

The grooves and cupules are caused by weathering

Hollows in rocks caused by weathering look completely different. The scratch marks of our research could only be man-made.



Scratch marks also occur as long, narrow and shallow grooves.

On the one hand, the scratch marks (grooves) were created by lighting 'new' fire at Easter or on the other hand (the cups) are the result of making fire by friction

Certain authors think that the grooves have a religious origin. They are said to be created by lighting new fire at Easter. In Germany, this religious custom is known as 'Samstagsweihe' because it takes place on the Saturday (Samstag) before Easter. This lighting of new fire may possibly be a Christianized form of the pagan fires in the spring. These pagan fires were associated with the beginning of the new growing season. To light a new fire at Easter, certain regulations had to be observed. For example, the new fire had to be hit with a stone on the outside of the church.



***Make a fire with a file, a piece of flint and charred linen.
Note the jumping spark in the left photo.***

The striking of this fire on the walls of the church would thus have caused the grooves. Let's take a closer look at this. In the past people used a piece of flint and a piece of carbon-containing iron (the so-called fire striker) to strike fire. They also needed tinder. Tinder is a highly combustible material

that could be made from, for example, a tinder fungus or charred cloth. The fire striker was used to scrape along the flint. Tiny iron particles that were released in that way created sparks. These sparks were captured in the tinder. By blowing the tinder could be made to glow further. A fire could then be built by adding fuel, for example fine wood shavings. Often the aforementioned ingredients for making fire were contained in a tinderbox that we could see as the predecessor of the match. Tinderboxes fell into disuse at the beginning of the twentieth century.

Back to the scratch marks. According to certain authors, they were said to have arisen as a result of the beating of new fire against the church walls. However, the sandstone and other types of rock where we usually find the grooves are not suitable for making fire. You won't get the sparks you need to get your tinder to smolder. Own experiments with a file (carbonaceous iron) on a block of sandstone did not give any satisfactory results. Even if it were possible to make fire with flint and carbonaceous iron, we would still have another problem. Anyone who has ever experimented with this method of making fire must know that the deep grooves in the church walls cannot be the result of striking fire in such a manner. The majority of the grooves are much too deep for that. Here too you would open your hands and especially your knuckles. If you take a closer look at the grooves, you will discover that they were not created by hitting but by scratching.

There are also authors who write that the cups were created by making a new fire at Easter through friction. To make fire by friction, you need a bow drill. In fact, that was a short stick. That stick should then be placed with one end against the church wall. The other end rested against (or rather in) a wooden plank pressed against the chest. The drill could then be quickly turned back and forth with a bow. This would cause the tinder that was placed in the board with the drill to glow, ultimately making the fire possible. This is also the theory.

Now to practice. It is indeed possible to start a fire with a fire drill and fire bow (a bow drill). However, the plank then lies on the ground and the fire drill rotates vertically (and not horizontally as in the theory of the cups). At the top, the fire drill is also placed in a piece of wood that is held by hand. By now turning, a fine wood dust is created in the cavity below that starts to glow. By bringing this into contact with tinder, fire can ultimately be obtained. The rough cavity in our horizontal board changes after some time of use into a real cup shape with a diameter of 1 - 1½ centimeters.



Experiment with the making of fire with a bow drill.

The two photos on the right show how the 'drill' rotates quickly back and forth in the 'cup'.

The first smoke can be seen on the far right.

We go back to the theory of the cups. With the cups, both wood dust and tinder would fall out of the turning hole because the bow with accessories is held horizontally and the cup is in a wall that is of course vertical. So this is simply not possible. You can't start a fire like that. And if you look at the cups themselves, they are usually nicely spherical. If you turn a stick in a wall, you won't get shapes like that.

Most cups in church walls are larger than the 1-1½ centimeter size that we get when we make a fire in practice. Some are even big enough to put a fist into.

Making a fire on church walls with cups is therefore not possible, especially not with such large cups. The origin of the cups must therefore be sought elsewhere.

The cups are caused by the impact of bullets and other projectiles

Bullets and other projectiles can cause (small) craters in walls. Such craters occur regularly and sometimes in large numbers in older buildings. These craters date from the Second World War but also from previous wars. These craters are hollow and have crumbled edges. Often the surface of the cavity is uneven. Cups, however, have a smooth surface and smooth edges. They look very different from projectile craters.



Bullet impact craters

The cups were created by turning the thumbs against the walls

Anyone who believes such a statement has never tried to screw a cup into a sandstone wall in this way. The skin will quickly become damaged and start to hurt, even before real results can be seen on the wall. Moreover, some cups are so large that one must have had very big thumbs. Making cups in this way just doesn't work.

The grooves were created by the extraction of stone powder for medicinal purposes
and other special purposes

Still other authors provide an explanation for the origin of the scratch marks that is difficult to refute, especially if you do some further research. The grooves and cups were created by scraping stone powder. Life could be made more bearable with this powder, for example by using it as a medicinal powder. People used the stone powder to ward off infectious diseases such as the plague and typhoid and to heal from these diseases. And in Egypt, guides at the ancient temple complexes say that the boat-shaped grooves there are the result of women scraping off stone powder. They then mixed that powder with food and ate it to become more fertile.

Stone powder extracted in this way from church walls and other religious buildings was a sacred powder. In popular belief it was a real medicine. But do we have evidence for this? In the following we will take a closer look at this statement.



Scratch marks on gravestones in Halberstadt (photo 1), Göttingen (photo 2+3) and Hannover (photo 4), all in Germany.

Sand and other fine material as medicine

During the last century and a half, much has been written and speculated about scratch marks and the use of stone powder extracted by scraping stones. We read about stone powder that was often used to combat kidney stones. It was also used in livestock farming to prevent colic. Farmers mixed it with animal feed to ensure that the animals ate it. Consecrated stone powder is said to have a more powerful effect than powder from 'normal' stones. Elsewhere we read that stone powder was used by scraping it off stones. This stone powder is said to be an effective medicine against all kinds of diseases.

In certain areas, stone powder was scraped off stones not only to cure toothache, headaches and diseases of the neck but also to get rid of warts. These warts would disappear from the hands of young girls with the help of the stone powder if it was used at night during the full moon. Stone powder could also provide relief when children were teething.

Fear of the plague

In Hessen (Germany) people scraped stone powder from church walls to use it as a repellent against the plague. They mixed this powder with water and drank it. The names 'Pestschaben' and 'Pestrillen' (plague grooves) indicate this use. The use of stone powder scraped from church walls to use against the plague is also mentioned in the German county of Bentheim, just across the Dutch border.



Scratch marks at stone wayside crosses at Reiler Hals along the Moselle (photo 1+2) and in Allstedt (photo 3+4), both in Germany.

The use of stone powder to cure all kinds of diseases

In the literature we read that according to folk tales, after extracting the stone powder, people blew into the grooves and cups to eradicate the disease. This should not sound so strange to us, because

nowadays the banning of diseases, ailments and evil is still done with some variation. A good example of this is the 'lapjesboom' near Overasselt in Gelderland. Large numbers of rags and scraps of cloth hang in this oak tree, which stands next to the ruins of an old chapel. People come here from all over to transfer the fever of a sick person to the tree. This material must have been worn by the patient the night before. People believe that the tree takes over the fever and frees the sick person from it. Because the branches of the oak are a little too high to reach them properly, over time people have decided to hang more and more pieces of cloth in lower trees and shrubs around the chapel.

Another practice that is still used here and there today and of which we know examples ourselves, is transferring warts to, for example, an onion or a piece of bacon. This involves rubbing the wart with the cut onion or bacon and saying a short prayer. Then onion or bacon are put in the ground. Once they have decayed, the wart should be gone. If such uses are associated with cups and grooves, they do not necessarily preclude the extraction of stone dust.



Scratch marks at (city) gates in Valkenburg aan de Geul (photo 1+2) and Gouda (photo 3+4), both in The Netherlands

We further read that the monks of the Carmelite Monastery in Vaals in the Dutch province of Limburg sold stone powder as medicine in the past. Unfortunately, this monastery no longer exists and it is therefore no longer possible to witness this custom. According to literature, believers can still take consecrated earth with them from the cemetery of the Belgian pilgrimage town Hakendover in the province of Flemish Brabant. To see how this works, we visit the cemetery in question. At the back of it, a shelter has been created between two buttresses of the church. In this shelter we find the consecrated earth. People can take some of this earth if they want to.

In Heerle (municipality of Roosendaal) in the Dutch province of North Brabant (Noord-Brabant), believers could receive consecrated white sand until the 1990s. They spread this so-called Gertrudis sand at home in places where they were bothered by mice and rats. Also in Prinsenbeek, also in North Brabant, we find a connection between Saint Gertrude and this special sand. There the believers went to the Church of Our Lady of the Assumption (Onze Lieve Vrouw Tenhemelopnemingkerk) to get the so-called mouse sand. With this sand they could protect the harvest against mice and rats. According to the legend, Saint Gertrude lived in Prinsenbeek. When the inhabitants of this place were plagued by these rodents that ate their crops, Saint Gertrude helped them to drive away the beasts. Saint Gertrude is worshiped as the patron saint against rats and mice. Woensdrecht in North Brabant also has the worship of Saint Gertrudis. In the past, believers could take consecrated sand home on March 17, the anniversary of Saint Gertrude's death. This sand was then placed in a container at the back of the church. The sand was also used here to repel rats and mice.

In the Belgian town of Vorst in the province of Antwerp, people also appreciated Saint Gertrude. They called on her not only when they were bothered by rats and mice, but also to heal wounds on the nose and lips and to get rid of eczema and skin rashes. They also thought that Saint Gertrude

could help them with mental illness and when the devil tried to tempt them. If they were ravaged by the plague or other epidemic diseases, it was also hoped that Saint Gertrude would come to their aid. Pilgrims took some soil from the cemetery, which they used at home as a remedy for all kinds of things. Taking some sand or earth from cemeteries or their surroundings from churches where Saint Gertrude was worshiped does not seem that unusual at all. It is only a small step from this practice to scraping sand from church walls.



Scratch marks in (city) gates in Harderwijk (photo 1+2) and in Zutphen (photo 3), both in The Netherlands

Saint Veronus, also known as Saint Vroon, is worshiped in the Belgian town of Lembeek. It is said that Saint Vroon could provide help against various diseases and conditions such as headaches, meningitis and fever. In the past, pilgrims would crawl into a hole under the saint's grave from where they would collect some soil. They put this soil in a small cloth bag. They then placed that bag under their heads at night to heal. The hole was later closed, but pilgrims could still get a bag of soil in the church.

In the past there must have been a thorn bush next to the church of Meldert (Belgium). According to the legend, this shrub began to grow there when the staff of Saint Ermelindis budded. Farmers took some soil from the site of the bush and then spread it on their fields.

Stories about such shrubs are not rare. In the cloister of the Hildesheim Cathedral (Mariendom) in Hildesheim in Germany we found a 'thousand-year-old rose bush'. According to the legend, the shrub dates back to the year 815. In this cathedral and in its cloister we found scratch marks.

Stone dust had people's attention from very early on. For example, it is known that Bishop Gregory of Tours said as early as the sixth century that a little dust from the church of Saint Martin helped more than all the fortune tellers with their nonsensical remedies. Also the scrapings from gravestones of saints are said to help more than any other medicine. The use of medicinal stone dust must have been quite normal in those times.

The Swiss-based ethnologists K. Derungs and I.M. Derungs have written sources reporting the scraping of stone powder from a cult stone in the church of Saintes-Maries-de-la-Mer in France. This powder was mixed with food and used as a remedy for infertility. There are two deep, fairly wide and long grooves in the cult stone.

They also report about a stone cult in Orcival in France where powder was scraped from a sacred stone and used for medicinal purposes. This stone powder was so popular that not much was left of the sacred stone.

Finally, they write about the so-called 'Hemmastein' in the Gurk Cathedral in Carinthia, Austria. Grinding marks on this stone point - according to the authors - to its use to extract stone powder for medicinal purposes.

The use of stone powder is also mentioned in the book 'Dämonen, Hexen, Böser Blick' by the Swiss folklorist Kurt Lussi. 'Genadebeelden' (images, often statues, of saints to which a special devotion is

attached) or things directly related to them have a sacred and healing power in the eyes of many people. For this reason, parts of the Madonna delle Lacrime are shaved off in Syracuse, Italy.

Lussi writes about the continued medicinal use of fossil stem particles of sea lilies in Thuringia (Germany) until our time. In Christianized form, these stem particles are also called Saint Boniface's pennies. According to a book on folk medicine from 1725, such particles ground into stone powder are said to help against kidney ailments and are also effective against melancholy, nosebleeds, dizziness and lung ailments.

Walter Hanf writes in his book 'Dörfliche Heiler' about faith healers and folk medicine in the Eifel (Germany) about the use of earth and minerals as medicine. He tells of earth for internal use and of loam mixed with vinegar to apply to the sick spot. Scraped stone is used as a powder, for example the red powder of hematite (an iron oxide) which is used as a remedy for all kinds of bleeding.

And although high-profile healings are sometimes the talk of the town in the villages, the folk healers who are still active today often work more or less in secret and there is a certain air of mystery surrounding their activities. From that perspective, it is not surprising that we have never seen anyone extracting rock powder at the locations mentioned in this publication. The fact that folk healers are still active today also means that people still believe in this form of healing and may benefit from it. With that in mind, the occurrence of fresh scratch marks is not surprising.

On August 21, 1879, the Virgin Mary, Saint Joseph and the Apostle John are said to have appeared in Knock, County Mayo, Ireland, after which miraculous healings took place. A lively pilgrimage soon developed. Johannes Bolte wrote in 1906 that the cement from the chapel where the apparitions took place was sold to the pilgrims. This is said to be a good remedy to cure various diseases.

Bolte also wrote in 1906 about the sacred house in the Basilica della Santa Casa in the Italian town of Loreto. According to legend, angels brought this house of the Virgin Mary here in the 13th century. Bolte wrote that in front of the church's portal women and children were selling small earthenware bowls depicting the Virgin Mary with the child. Below the image is written 'Con polvere di Santa Casa' (with powder of the holy house). In the church, the faithful could then buy some dust that had been wiped off the roof of the holy house for a few cents. Heavy old wounds could be healed with this dust.

In our 'modern' society people often laugh when they hear about these kinds of things. All kinds of 'superstitious' customs seem unbelievable. But the way of thinking in the past was often very different than it is today. For example, Karl-Friedrich Amendt writes in 'Rheinische Wegkreuze' that it was assumed that wayside crosses where the Blessed Sacrament was placed during processions were charged with the power of the sacred. That is why we often find scratch marks there, just like at church portals. They prove the way of thinking - according to Amendt - that stone particles that were scratched out of these crosses provide help against sickening demons when they are used as medicine by humans and animals.

Sacred Earth in Rutten (Belgium)

Just like Saint Vroon, Saint Evermarus is invoked when one wants to be freed from headaches. There is a cavity in the floor of the Sint Evermarus Chapel in the Belgian village of Rutten that is closed with a tile. The cavity contains consecrated earth that can be taken by the faithful. They use this soil to heal sick animals by mixing some of it into their food. A woman we meet at the chapel tells us that the earth is actually used for all kinds of diseases and ailments. Actually, it helps for everything, says the woman. She puts a bag of soil under her pillow in bed. She also brings earth to other people. One of them is even said to have been cured of polyps because she gave her this earth. The Evermarus Chapel is built of flint and limestone. We found scratch marks in this limestone in the outer walls of the chapel.

Consecrated sand ('marl') in Sint Gerlach

Today, people still use stone powder for magical and medical purposes. We come across this application in the church of Sint Gerlach in the town of the same name in the Dutch province of Limburg. The custom is based on Saint Gerlach, a knight from the 12th century who at one point wanted to improve his life. After years of penance, he became a hermit on his own estate, which was located near present-day Sint Gerlach. After his death, small miracles occurred at his grave and people started taking soil from his grave because they attributed all kinds of beneficial effects to it. Even the saint's remains such as pieces of bone became desirable objects. Such practices were not unusual in earlier times.

Today we still find remains of saints as relics in churches. At a certain point, this event at Sint Gerlach became more structured and 'the soil' became available to believers in a decent manner. Approximately in the middle of the church is the tomb of Saint Gerlachus. At the bottom of the tomb is an open space in which 'sand' (not earth from the grave but limestone, locally called 'marl') lies. That this is 'consecrated sand' is stated on a sign next to the tomb. A scoop and plastic bags are available for people who want to take some of the consecrated sand.

The faithful use it to heal sick animals. Rats and mice would ignore grain to which some of this 'sand' has been added. Spread in the stables it is said to be good for the overall well-being of the cattle. And even plants and flowers would benefit if some 'sand' is added to the soil. In short, it is suitable for all kinds of purposes. With this in mind, scratching stone dust at churches, among others, suddenly becomes a lot more understandable.



Consecrated sand ('marl') in Sint Gerlach.

Consecrated sand ('marl') in Banholt

There is also a St. Gerlachus church in Banholt in the Dutch province of Limburg. The pastor blesses sand here every year in January, on the feast day of Saint Gerlach. Then approximately 150 small bags are filled with this sand. These are placed at the back of the church near the statue of Saint Gerlach. Around the end of March there are no more bags to be found; the believers have now taken them all. They take the sand with them to sprinkle it on the cattle in the stables to protect them from diseases. Saint Gerlach is generally invoked in Banholt against diseases of humans and animals.

Sacred sand in Montfort

Literature research showed that the St. Catherine's Church in Montfort in the province of Limburg is also interesting. Saint Anthony is worshiped in this church. We read that in the past there were large buckets of consecrated sand in the church. Believers took this sand and scattered it in the stables with the cattle. According to literature, the faithful even took their cattle to church where they were blessed by the priest. Bread was also blessed in this church. Although the practice seems to be a thing of the past, we still visit St. Catherine's Church because there may be scratch marks. Unfortunately, it appears to be a fairly modern church that was built on the site of an older church that was perhaps more interesting. We don't find any scratch marks there, but because the door of

the church is open, we take a look inside. There we meet one of the members of the church board. We ask him about the consecrated sand and he tells us that it is still present in the church. We find it in the back in a bucket next to the statue of Saint Anthony. When we ask where this sand comes from, we are told that they get it in a bag from the local hardware store. When the bucket is empty, it is filled again with this sand from the hardware store and then the priest blesses it. We do not have to find this hardware store story strange because in fact it is a normal old custom with a somewhat newer guise. After all, blessed sand is blessed sand. The faithful come from far and wide to get their hands on some of this sand, we are told. They still use it for their livestock. They also spread it on their fields to make them more fertile. Even the use of the blessed bread appears to still exist. Just like in Sint Gerlach, a scoop is available here to take some blessed sand from the bucket.

Earth with special powers in Haillot (Belgium)

Earth is also still taken from the Saint-Mort Chapel in Haillot in the Belgian province of Namur to mix with animal feed. It is said that the animals will then be protected from diseases and that even cows will produce more milk. When visiting the chapel we find the earth in a hole under the altar surrounding the top of a large stone protruding from the ground here. It is possible that this stone is a menhir, but no certainty can be given about this because it has never been properly investigated. However, we should not be surprised that it concerns a megalith. Not much further away here in Haillot is the 'Pierre de Diable', a 4½ ton stone that we can certainly count among the menhirs. Believers come to pray to Saint Mort in the chapel to get rid of headaches and toothache, for example. Possibly the earth under the altar is not only taken to give to the animals, but people also use it for themselves. In the pit with earth we also see the pacifiers of small children, which have been left as ex votos. This happens more often in chapels and churches.



Scratch marks in the town halls of Blankenburg (photo 1+2) and Goslar (photo 3+4), both in Germany

Earth from the cemetery in Hakendover (Belgium)

The previously mentioned town of Hakendover (in the Belgian province of Flemish Brabant) is located southeast of Tienen. Hakendover is especially known among Catholics for the horse procession that takes place every year on Easter Monday. Then pilgrims and animals are blessed that day and a horse race takes place across the fields. Pilgrims can take some consecrated earth with them from the cemetery. This earth can be used to ward off or eradicate all kinds of evil. For example, it is sprinkled on fields or given to livestock. We find the consecrated earth in the cemetery at the back of the church under a shelter between two buttresses. This shelter is separated at the front with two concrete strips. There used to be a sturdy iron fence with an access gate and padlock on the concrete strips. Consecrated ground could be bought there for a few centimes (a former subunit of currency equal to one-hundredth of the Belgian franc) from a woman who handed over the ground from the shelter. Nowadays the earth is no longer sold; one can simply take some of it.

The demonstrable effect of healing earth

Nowadays, the use of things like graveyard earth and stone dust is sometimes viewed with some pity. But in the past, things were very different. Medicine as we know it today did not yet exist. People did not yet know about micro-organisms. And a doctor was certainly not always available to everyone.

Healing and recovery were often viewed in a religious way. You often became ill and looked for ways to get better again. And if the situation improved after using earth from the grave of a pious person, for example, then people quickly thought it was a miracle. Other sick people in the vicinity of the cured person could then also try using that earth. And perhaps they would feel better or were also cured. Possibly the placebo effect played a role in this or perhaps people would also have gotten better without using anything extra. And perhaps something else was also involved

In this work on scratch marks, we have already written about the grave of Saint Gerlach in South Limburg. According to legend, after his death, small miracles occurred at his grave and people started taking soil from his grave because they attributed all kinds of healing properties to it. But are we only dealing with believe or superstition here or could there really have been something healing about the soil? Perhaps a grave in Northern Ireland offers food for thought in this context.

Near the hamlet of Boho, about ten kilometres from Enniskillen in County Fermanagh in Northern Ireland, in the cemetery of the Sacred Heart Roman Catholic Church, is the grave of Father James McGirr. The priest – who died at the beginning of the 19th century – was known as a faith healer. On his deathbed, he is said to have said that the soil from his grave could heal everything that he had healed during his lifetime. Since then, believers have started using small amounts of soil from his grave for healing purposes. And they still do. The small bags of soil are then placed under the pillow at home to have their healing effect. We already know this custom from the consecrated soil in Rutten in Belgium. At McGirr's grave are all kinds of spoons that were left behind by the faithful in recent times. Over time, large numbers of people have taken soil from the grave. At that location, the cemetery must have started to look like a small excavation... .. However, at the grave there are instructions on an A4 sheet in a plastic sleeve. Among other things, it states that "Only a spoonful of soil should be removed and must be returned to Fr McGirr's grave on the fourth day." Not returning the soil is said to bring bad luck, so many will adhere to it.

There is indeed something going on with the soil of McGirr's grave. And we know this thanks to the research of Dr. Gerry Quinn of the University of Ulster. The soil contains a bacterium from the genus *Streptomyces* that slows down the growth of many multi-resistant pathogens. Quinn discovered that bacteria that have a similar effect also occur in other places in the environment. So the soil has a demonstrable healing effect. And this effect may be further enhanced by the belief in the healing power of the soil of McGirr's grave.

The use of (stone) powder as medicine through the ages

Spells to cure diseases

The 1890 article 'Deutsche Segen, Heil- und Bannsprüche' by Dr. Friedrich Losch lists recorded practices and spells for healing illness and eliminating evil. Number 27 of his list translates to the following: If someone was bewitched, he must go to a conciliation cross (the kind of cross were somebody was murdered) in the field. One must walk around it three times from the left side while pronouncing the name of the Father, the Son and the Holy Spirit. Then one should strike a piece of the cross and throw it into running water, saying, "I throw you into this stream so that all sorcery and misfortune may flow away and I may resist the one who did this to me." Number 300 of the list states approximately: At midnight as long as the clock strikes, one must go with a white tablecloth to a boundary stone that separates three plots. There, while pronouncing the names of the Father, the Son and the Holy Spirit, one must strike three pieces of the stone on the tablecloth and go to a stream of water. One must carry the urine of the sick person, beat the three pieces of stone into powder and take water from the stream. All three of these things should be put in a glass and let the sick person drink from it. Then, while he is drinking, say three times: "As surely as Jesus Christ died on the cross, you will not die either." The author also notes that boundary stones were traditionally places where spirits gathered and they were the scene of transcendental events.

Sandstone powder

In 1975, Karl Josef Minst wrote in the article 'Heilige Wetzrillen' that farmers healed their cattle with sand that they scraped from the sandstones of holy places. If it did not help, the sand was probably applied too late. If the sacred sand was sprinkled in the field furrows, it ensured a good harvest. If the

harvest did fail, the farmer would certainly not have properly invoked the saints when scattering the dust. Minst reports that many more miraculous effects were attributed to sand (stone powder). But then it had to be scratched out during the 12 Holy Nights (December 25 to January 6). This had to be done in absolute silence, otherwise the tool that was used to scratch would shoot out and the believer could seriously injure himself. Moreover, even a single spoken word would render the magic ineffective.

Statues of saints as medicine

Healing powder was not only obtained by scratching it out of stones at holy places. Statues of saints also had to suffer from it. Material was scratched off or carved out. This stone dust was used for all kinds of healing purposes. It was mixed with food or added to animal feed. We saw an example of such a statue in the passage at the Niederrheinisches Museum für Volkskunde und Kulturgeschichte in Kvelaer in Germany. In the Mater Dolorosa (Our Lady of Sorrows) on display there are several cups that were created by carving away pieces of the statue.

Pilgrims and other believers were also helped to obtain stone dust by offering them small copies of mainly Maria statues (Madonna statues) in various places of pilgrimage. The believer could then scrape off the desired quantity from the statue and then use the dust for its healing effect. We know such statues mainly by their German name Schabmadonnen (singular: Schabmadonna). Well-known are the Schabmadonnen of Einsiedeln and Altötting in Germany.



There are several cups in the Mater Dolorosa in Kvelaer (Germany)

Powder from mummies as medicine

In the past, people not only used stone powder to cure diseases. Powder made from human mummies was also a common medicine. Karl Kohlstock from Gotha in Germany wrote in 1933 about the medicinal use of mummy powder. He gives the example of a pharmacy in Gotha who bought an Egyptian mummy for this purpose about 100 years earlier. Kohlstock even managed to find an original wooden pharmacy tin with the inscription 'Mumia pulv.' and he bought it for the Gotha Historical Museum in Friedenstein Castle. He also has witnessed workers drying human bones found during excavations and then pulverizing them to sell them as a medicine against diphtheria.

In the Museum of Folklore and Cultural History in Kvelaer in Germany (Niederrheinisches Museum für Volkskunde und Kulturgeschichte) a box containing a mummified human hand and foot can be seen. According to the accompanying text, it was still a common practice at the beginning of the 20th century to export mummified parts of people from Africa to Europe. In Europe, these parts were ground into powder and then mixed with medicinal herbs. People used the medicine thus produced, among other things, against poisoning. Analysis of the mummified body parts has shown that they probably belong to a 20 to 40 year old woman.



Scratch marks in Bentheim sandstone in Oldenzaal in The Netherlands (photo 1+2) and in Nordhorn (photo 3+4), Germany

An altar as animal feed?

Inspired by the story from Minst, Werner Haas reported the following extraordinary story in 1976: In Birkheim über Kastelaun in Germany there was an altar whose stone dust was said to be very good for cattle. The animals would grow quickly with this dust. This gave farmers who made a pilgrimage to it the idea of scraping stone dust from that altar and adding it to the cattle's feed. It started to look more and more that the altar would completely turn into cattle feed. When it was announced to the farmers that the altar was made of gypsum and that any other gypsum was also suitable for this purpose, they accepted it and didn't scrape at the altar anymore. Haas had found this interesting story in a 1793 publication.



Scratch marks in 'buntsandstein' in Bonn (photo 1+2) and in Saarburg (photo 3), both in Germany

All kinds of earth for all kinds of purposes

Earth from graves and cemeteries of saints, martyrs and other religious persons or from places where they died or where a special event is associated with them was very often attributed a special power. For example, pilgrims took earth from the Church of the Holy Sepulchre in Jerusalem. A pilgrimage account from the fourth century even tells us that the floor of that church had to be filled up regularly to compensate for all the soil that was taken.

Earth was also taken from the Holy Land for other purposes. Often some of it was scattered in a cemetery. The deceased would then decompose more quickly. Such use could get out of hand. When Archbishop Ubaldo Lanfranchi of Pisa (Italy) went on a pilgrimage to the Holy Land in the twelfth century, he had an enormous amount of earth brought to Pisa for use in the cemetery next to the cathedral. Sources even report fifty to sixty shiploads.

Earth was also taken from the place where Saint Thomas was said to have been killed in India. That earth was then given to someone who was sick. This person would heal immediately after consuming the earth. And stone dust was scraped off from the tomb of Saint Eutropius in Saintes (Charente-

Maritime department, France) until well into the nineteenth century. This stone powder is said to be particularly powerful in curing fever.

Earth from the grave of deacon François de Pâris (1690-1727) on the former cemetery of Saint Médard in Paris is also said to provide special healings. The earth was mixed with a small amount of water or wine and then drunk. It is reported that hundreds of healings took place.

The seventh-century Anglo-Saxon bishop Cuthbertus even performed miracles when he used the earth on which the water with which he had been washed had been thrown away.

And then the wall needed to be repaired

In a fairly recent edition of the Katholische Kirchenzeitung für die Pfarre Marmagen (Katholische Pfarrgemeinde St. Laurentius Marmagen; edited by Hermann-Josef Pönsgen) we read about a special case from Roth bei Auw in the Eifel.

In the past, a procession for Saint Leonard of Noblac took place every year on November 6 at Roth in the Eifel. Leonard is the patron saint of farmers, but also of their cattle, horses and stables. The scratch marks (grooves) in the sandstone walls of the church became deeper every year. This led to the fact that over time some sandstone blocks were eroded to such an extent that they had to be replaced. The publication also mentions, among other things, the extraction of stone powder in the city of Euskirchen. The stone powder obtained by scratching out was used as a repellent against all kinds of diseases and ailments, against the 'evil look' (also called the evil eye; it could bring all kinds of disaster to the affected person and even kill him) and against witchcraft. It was mixed with the food of humans and animals.

Beneficial stone powder for the sheep

In June 2017, E. Brohl reported an interesting case from Bietigheim-Bissingen in the German state of Baden-Württemberg to the editors of the German website 'Schabespuren': sexton Wasserbäch of the Kilianskirche told him about scratch marks on that church. The stone powder extracted there was sprinkled over the sheep when they were led in procession around the church. In the church there is a statue of Saint Wolfgang, the patron of shepherds, according to the sexton.

Powder from stone (wayside) crosses

Stone (wayside) crosses were also extensively scraped and chopped. Its stone powder is said to help prevent colic in children. For example, E. Teiwes reported in 1931 that mothers went to a stone cross in Kemnade, Germany, to scrape off stone powder when their children had colic. That stone powder was put into the children's drinks. In 1884 this custom would still take place.

In Hohenbüchen-Coppengrave in the German state of Lower Saxony, people are said to seek salvation at a stone cross. Pieces would be cut off and then pulverized to use them against epilepsy.

Heinz Bormuth writes in 1974 that stone powder was still scraped off crosses in Dreieich in the German state of Hesse.

In 1935, Adolf Hoffmann wrote about three stone crosses near Arholzen in the German state of Lower Saxony where women knocked off pieces that were then ground into stone powder. This powder was given to children to eat but was also added to animal feed to promote growth and to cure diseases. And in Wegensen, also in Lower Saxony, a cross was seriously damaged because pieces were knocked off to be used as medicine.

In 1960, Heinz Köber wrote about a cross in Wasungen in the German state of Thuringia where stone powder was scraped from cups to be used as a medicine for thyroid problems. An old shepherd gave it to the sick but also to livestock to 'drive away' the disease.

And Joachim Jünemann wrote in 1961 about an old shepherd who scraped stone powder from a cross near Jühnde in the German state of Lower Saxony. He then mixed that stone powder with badger fat to use it against all kinds of diseases in humans and animals.

Jünemann also writes about a resident of Bodenwerder in Lower Saxony who died in 1960 and remembered that in his youth (before 1914) people shaved sand from a 'Scheibenkreuzstein' to use it to prepare an ointment. The stone in question does indeed have strong grinding marks on its top.

The Scheibenkreuzstein mentioned here refers to a stone 'cross' that has a round shape at the top instead of a cross.

And in 1977 Jünemann spoke to an old man who told him that in his youth (1909) he had seen how his uncle in Groß Ellershausen near Göttingen scratched powder from a stone. He blew this powder in the eye of a cow with an eye disease.

As far as mixing the stone powder with badger fat is concerned, it is interesting to mention that in 1960 jars of badger fat were still for sale on the streets in South Limburg in The Netherlands. In popular belief, badger fat was believed to have a medicinal effect against various miners' ailments such as dust lungs. Such ailments were common at the time because many men worked in the South Limburg coal mines. Even in a newspaper article of August 16, 1980 in the regional daily De Limburger, Jef Wanders of the National Institute for Nature Management states that badger fat is still a popular home remedy for old people. He goes on to say that the fat used to be known as an excellent remedy for rheumatism.

On the website of the Stichting Das en Boom (Badger and Tree Foundation; version February 3, 2024) we can read that even today, jars of badger fat are still for sale privately. The combination of stone powder with badger fat in an ointment could therefore be regarded as an extra powerful medicine in folk medicine.

Stone powder from prehistoric stone axes

Not only 'holy' places such as churches, crosses, gravestones and cemeteries were suitable for extracting medicinal powder. Special powers were also attributed to prehistoric stone axes. Colloquially, these axes were known as thunderstones (in German 'Gewittersteine' or 'Donnerkeile', in English 'Thunderbolts' and in French 'pierres de foudre' or 'pierres de tonnerre'). Belemnites (the arrow-shaped fossilized remains of fossil squids) were also referred to by these names. People believed that they fell from the sky with lightning. Hence their special names in the vernacular. Given their alleged origin, stone axes were shrouded in mystery and special powers were attributed to them.

First of all, they were of course suitable as protection against lightning. Therefore they were worn on the body and were incorporated into the foundations of stables and farms themselves. They were also attached to the roof. In the stables they could protect the cattle against diseases. But human suffering could also be alleviated with it. This way, the axes could be used to stop bleeding and facilitate births. Eating pieces of stone from these axes is said to grant supernatural powers.

From pieces of stone it is a small step to stone powder obtained by shaving it off stone axes. This stone dust from stone axes was mixed with water and given to the cattle to drink to make them healthy again. People used this stone dust against epilepsy, side stitches, all kinds of neck ailments and contractions. Some of these customs still existed at least last century. Sometimes one comes across stone axes in archaeological collections that contain hollows. The exact meaning of this is not yet clear, but certain sources assume that these parts are in fact just cups, created by the extraction of stone dust. And we don't think that possibility sounds so crazy.



Scratch marks in ironstone in Averbode in Belgium

Fresh scratch marks

Scratching stone powder (and thus making scratch marks) is not something that just happened a long time ago. We discovered our first fresh (recent) scratch marks on September 1, 2009 in the German town of Schadeleben in the Sankt Annenkirche. These are recent grooves that are located next to older grooves. These fresh grooves raise the question why people still scratch stone powder today. It may have something to do with the disaster that occurred near this location a few weeks earlier. Schadeleben is located on the Concordiasee, a lake that was created after lignite mining. Nachterstedt is also located on the lake. On the morning of July 18, 2009, an approximately 350-meter-wide strip of ground near Nachterstedt slid into the Concordiasee. Houses and some people were swept away. Nothing of the people was ever found again. From Schadeleben, the scene of the disaster can be seen in the distance at the (new) shore of the Concordiasee. There is something oppressive, something frightening about the enormous hole that has been created near the shore. We see people sitting on benches on the shore of the lake, seeking support from each other and talking about the 'Erdrutsch' (landslide). The event obviously has a deep impact on the residents. And wouldn't there be people who would again use to holy stone powder as a defense against further disaster? To us, that thought does not seem so strange. Many forms of superstition and folk belief appear to be much more part of daily life than is often thought.

For example, research from the last quarter of the last century shows that today a significant part of the population still believes in witches and that belief in satanic powers is still high. In the world around us we still regularly encounter the use of repellents. An example of this is the use of sacred boxwood. In some Catholic churches, boxwood is blessed by the priest on certain occasions. The faithful then hang this sacred boxwood in their homes to protect it against disasters such as fire and lightning. Whether it concerns boxwood or stone powder, the principle is essentially the same.

But of course we don't know for sure whether the people in Schadeleben scraped the powder to use it as a deterrent against disaster. It is of course also possible that they use it as medicine. After the discovery of fresh crab tracks in Schadeleben, we started paying closer attention to this phenomenon and soon found such fresh scratch marks elsewhere as well.

It shouldn't come as a surprise that the chance of encountering someone who is scraping stone dust from a wall is small. After all, if you look at it carefully, scraping stone dust from the wall of a building is a form of destroying or damaging someone else's property. And what's more, it may be a private matter that people don't want others to know about. Or perhaps it is connected to a ritual in which talking is not allowed or in which people are not allowed to be seen. Nevertheless, every now and then a case occurs in which a corner of the veil is lifted. What prof. dr. Anne Storch from the University of Cologne was able to tell us about this sounds very interesting. She made observations in Armenia and spoke to people about scratch marks on the spot. She came across those well-known scratch marks in churches and monasteries there. Nowadays, nothing is scraped off there anymore in connection with the preservation of the buildings protected by UNESCO. Until recently, however, this was still the case. Now the people limit themselves to using the dust that has settled on the building parts or they touch the walls or the scratch marks and then stroke their head and face. Because of the stroking the walls with scratch marks look polished here and there.

She also told us about a medievalist who, during research in Romania, saw a man who was busy scraping a cup with a spoon. The man was a farmer and he told the researcher that he used the scraped-out stone dust for his cattle.

Storch also saw in Selfkant (Germany) that, hidden behind the bushes, there were fresh scratch marks on the wall of a church. There was still a small metal shovel near the wall that could have been used for the scraping

And of course we must not forget the (eyewitness) reports on the formation of scratch marks in the recent past – such as those by Adolf Hoffmann, Heinz Köber, Joachim Jünemann, Heinz Bormuth, E. Teiwes – which were already mentioned earlier in this work.



*Scratch marks in limestone ('marl') in Bree in Belgium (photo 1+2)
and in Rogenstein in Braunschweig in Germany (photo 3)*

How are scratch marks formed? An experiment

We have seen quite a few grooves and cups over time, but it is still not clear how they form. What struck us was that the cups have a very regular shape. The grooves often have the shape of a boat, but there are also long, narrow and shallow grooves. Because we wondered how these scratch marks are created, we started experimenting with them ourselves. For these experiments we used a spoon and a knife.

Experimenting with 'marl' (limestone)

In South Limburg, in The Netherlands, and the adjacent part of Belgian Limburg, many churches and other buildings are made of limestone. The locals call this limestone 'marl', but that is not entirely correct from a geological point of view. To distinguish between this limestone from South Limburg and other types of limestone, we will also call the rock marl in this story. The marl is a marine sediment dating from the Upper Cretaceous. It is a soft rock and you can easily scratch it. We only needed one minute to extract a full spoonful of stone powder from a block of marl. This created a nice, even cup. With a larger spoon it was also possible to collect a larger amount of stone powder in one minute. The cup that was created was of course also larger. With a potato knife we managed to make a clear, boat-shaped groove in one minute. Of course, that produced a fair amount of rock powder.

Experimenting with sandstone

For this experiment we used Bentheimer sandstone. This sandstone is a marine sediment from the Lower Cretaceous. We find this sandstone clearly visible in and around Bad Bentheim in Germany. Bentheim sandstone is much harder than the 'marl' from South Limburg. This time it was less easy to collect a spoonful of stone powder and make a cup. To get the desired result, we had to use more (muscle) strength. However, for those who extracted the stone powder in the past, the extra effort and time required for the activity must not have been a real problem. Chances are they had more patience than we do in the 21st century.

Making grooves with a potato knife turned out not to be such a good idea, we needed a sturdier knife. This time we used a sturdy pocket knife. Once again we needed extra time and strength to achieve the desired result.



Experimenting with making scratch marks in Bentheimer sandstone (photo 1 + 2), in limestone ('marl', photo 3) and in lower carboniferous limestone (photo 4)

Experimenting with limestone from the Lower Carboniferous

In the Meuse region (on both sides of the river and its tributaries, mainly in Belgium) we find a hard and tough limestone with a blue-gray color. It is a marine sediment from the Lower Carboniferous. Many churches and other buildings are built with this rock. During an experiment it turned out that it is not so easy to scrape stone powder from this limestone. We needed a little more time and energy for the job this time. We were unable to create a deep, boat-shaped groove; it remained a shallow notch. Making a boat-shaped groove would take us a long time. The experiment made it clear that collecting stone powder from this type of stone is quite difficult. That is probably also the reason that, with one exception, we only found shallow, narrow grooves in this rock and in a limited number of places.

Was the stone powder scraped with spoons and knives in the past?

To be able to make cups with a spoon, you must of course have a spoon. In the past, most people's spoons were made of wood. In the Netherlands and surrounding areas, many people will have used wooden spoons even until the beginning of the last century. From the 14th century onwards, pewter and copper spoons became popular, but it was not until the 19th century that spoons made of new materials such as brass were industrially manufactured and became available to wider sections of the population.

Extracting stone powder and thus making cups in soft limestone is possible, but if you want to extract stone powder from hard sandstone with a wooden spoon then you have a problem. In that case you really need a metal spoon and the metal should not be too soft. Of course, not everyone had such a metal spoon. However, this does not have to be a problem for our theory about extracting rock powder with a spoon. We wonder whether everyone collected that stone powder themselves. It is entirely possible that the extraction of the powder was done secretly at night, when it was dark. And possibly those who collected the powder had a certain status in society. They may have been healers, wise men and women. And possibly such people had metal spoons. It is also possible that the people used a fire striker to collect stone powder. Moreover, the fire striker would have been of sufficient hardness to scratch sandstone. Many old fire strikers have rounded sides, which may also have made it possible to make cups. To make the grooves, the knife must have been a good option during earlier times.

Dr. Albrecht Zott (Germany) also conducted experiments with extracting rock powder. After reading an earlier version of this publication ('Krabsporen - steenpoeder als geneesmiddel?') he wrote to us on September 2, 2016 that old horse horseshoes gave him the best results. Horseshoes can be held with both hands. The ends are also sufficiently sharp and they yield a lot of stone powder. With spit or water, the scraped stone powder becomes a paste that can be scraped off with a wood chip. At

that time people, from shepherds to executioners and from farmers to blacksmiths, had sufficient iron tools at their disposal.

Zott finds the use of the spoons mentioned in our experiment unlikely. However, in his book 'Dänonen, Hexen, Böser Blick', the Swiss Kurt Lussi writes about ritual practices with spoons. For example, he points to the research of the folklorist Josef Zihlmann, who mentions the offering of spoons in a chapel near Lucerne (Switzerland) until the 20th century to get rid of toothache. Lussi also mentions the offering of tableware in the Black Forest in Germany by newly married couples to invoke the blessing of a family with children. We therefore certainly continue to consider the (ritual) use of the spoon to extract stone powder for certain medicinal purposes to be a real possibility. The use of the spoon by the farmer in Romania mentioned earlier in this paper supports this idea. However, we do not have any definitive information about the use of certain objects for scraping and extracting rock powder. The fact that there are sufficient iron tools available among broad sections of the population, as Zott writes, would in any case make it plausible that scratch marks often occur en masse and in many places.



Scratch marks in brick in Wijk bij Duurstede (photo 1) and in Bellingwolde (photo 2+3), in The Netherlands

Where do we find scratch marks?

Stone type

We found most of the scratch marks in sandstone. The type of sandstone is of secondary importance. We encountered them in sandstones from the Triassic, Cretaceous and Tertiary period. With the limestone it is slightly different. The soft 'marl' of South Limburg (The Netherlands) and the surrounding area was an excellent material for extracting stone powder. Harder types of limestone such as those from the Lower Carboniferous have only been used in a very limited way and the scratch marks in them are almost always small, narrow and shallow. In a very limited number of cases we found scratch marks in the volcanic rocks tuff and basalt. Tuff is soft and contained broad, deep scratch marks, just like sandstone and 'marl'. Basalt is hard. The scratch marks in it resemble those of the Lower Carboniferous limestone. Finally, we have now found scratch marks in brick at two locations in the Netherlands.

In the past, suitable rock(formations) present in the region largely determined which natural stone was used as building stone in a particular area. For example, in South Limburg we come across many buildings made of limestone ('marl') from the Cretaceous period. Volcanic rocks have been frequently used in the Eifel in Germany and hard limestones from the Lower Carboniferous in the Belgian Ardennes. This is different for the Netherlands - with the exception of South Limburg. Apart from erratic stones, there is no suitable natural stone for building in the immediate subsurface. This meant that natural stone had to be brought in from elsewhere to be able to build. This supply mainly took place from Germany and Belgium via the major rivers and the waterways along the coast of Zeeland and Holland. However, political tensions could lead to a halt in the supply, which meant that other types of stone had to be chosen.

In general, one could say that when looking for scratch marks, an orientation on a geological map is a good start. Areas where sandstone occurs at or near the surface, for example, have a high chance of finding scratch marks. Geologically young areas with almost only loose sediments from the Quaternary are an exception. Supply options from elsewhere are important there. Here it is less easy to determine a good chance of finding scratch marks in advance.

Locations

We found most scratch marks on churches, usually on the outside but also on the inside. Inside we found them on the walls, on the pillars, next to the confessional and next to (or on) the baptismal font. Scratch marks can also be found on gravestones and wayside crosses. And furthermore we found them at city gates and town halls. In some places we found them on natural rocks with smooth surfaces.

But why was stone powder scraped from secular buildings such as city gates and town halls? This may have had to do with the ancient belief that spirits of the deceased live in rocks and building blocks of houses and other buildings or quiet places. City gates may have been places where people died during sieges. And in town halls the judge decided over life or death. Even deep grooves in rocks such as in Quedlinburg (Germany) can be explained in this way.

In a number of places we did not expect them, but an explanation was usually not far away. A good example of this is the sandstone castle of Bad Bentheim in Germany. This castle has two entrance gates. Here we found scratch marks at the inner entrance gate. Why would people collect stone powder in such a place? We found the explanation for this on the other side of the wall. That was the inside of a chapel that could not be seen from the entrance gate. We found another case in the German city of Quedlinburg. There we found quite a number of deep grooves at the base of a sandstone cliff known locally as the Schloßberg Cliffs. A church has been built on top of this rock, the Schloßkirche St. Servatius. And why make the climb all the way to the church when you can simply collect the rock powder at the base of the rock? After all, it is the rock on which the church is built. Why wouldn't the stone powder have the same quality as the church itself?

Sometimes we found scratch marks on the walls of profane buildings. Some historical research usually quickly made it clear that these buildings once belonged to a church, had an ecclesiastical function or were even part of an ecclesiastical complex.

In the literature we even came across interesting information about a sandstone portal from 1618. This portal and the house to which it belonged had no religious significance. In the keystone above the entrance was an image with a horseshoe. The building appeared to have been built by a blacksmith and this may explain the scratch marks. In the past, blacksmiths often had a certain status. They were seen as 'clearvoyants', as 'wise men'. Famous in this respect is Wieland the Blacksmith from German mythology. He is the equivalent of Vulcan from classical mythology who built a forge under the volcano Etna. Wieland is associated with quite a few prehistoric sites. For example, in Oxfordshire in Great Britain there is a megalithic long grave called Wayland's Smithy (Wieland the blacksmith). According to the story, riders left their horse at the long grave along with a silver coin if the animal was missing a horseshoe. The next morning the horse had a new horseshoe and the coin was gone. Popular belief often attributed special power to such places.

We do not yet have an explanation for the grooves and cups in old town halls and city gates. Hopefully the future can bring more clarity to this.

Are scratch marks an annoying phenomenon?

In quite a few places we found scratch marks that had been filled with cement. It is striking that almost always only part of the scratch marks are filled up. The rest is still 'open'. Why would only some of them be filled up? We don't have an answer to this question yet. We also don't have that when it comes to the question of who filled up the scratch marks. We can imagine that the owners of

the buildings in question were and are not happy with scraping stone powder from the walls. We see the scratch marks as historical heritage, but all things considered, making them was also a certain kind of demolition of the building in question. The owner may have tried to prevent further scratching by covering up the existing scratch marks.



A phenomenon that resembles scratch marks: pseudo cups that are formed by the round heads of bolts that attach the hinges of doors.

Phenomena similar to scratch marks

There are a number of phenomena that show a certain similarity to the scratch marks, but which are nevertheless based on a different origin.

1) Grooves on large prehistoric grindstones are related to the grinding of stone axes, especially in the Neolithic (New Stone Age; the last part of the Stone Age). During the Neolithic, axes were mainly made from flint. The semi-finished products that were created were, in quite a few cases, completely or partially polished. This polishing was done on a grinding stone made mainly of sandstone or quartzite. Portable grinding stones weighing less than a kilo to several kilos as well as site-specific megalithic stones weighing several tons were used. Grinding grooves on such stones were created by sharpening the cutting edges of the axes. These grinding grooves can look quite similar to the boat-shaped grooves that we consider scratch marks. Grinding grooves on polishing surfaces have a very smooth and even surface and they can shine to some extent as a result of polishing. Stone axes were mass-made and frequently sharpened in prehistoric times. Megalithic grinding stones are therefore found in quite a few places.

If you enter the search term 'Polissoir (archéologie)' into an internet search engine, you will find an illuminating page about these megalithic grinding stones from the Neolithic on the French Wikipédia. The website page shows good examples of these stones.

2) Sometimes grinding grooves are created by grinding pencils. Writing on slates was carried out with such pencils as early as the 18th century. Pencil and slate could be called the predecessors of pen and paper. Pencils were made of soft stone such as slate. The slates were also - as the name suggests - made of slate. After the slate had been filled with words and numbers with the pencil, the writing could be erased with a wet sponge. Once the slate had dried again, it could be written on again. Just like lead pencils, pencils for writing on slate had to be sharpened. The schoolchildren did this in all kinds of places, such as on paving stones and curbs, but also on protruding parts of the brick walls of the school or another building. Beautiful examples of such grinding marks can be found in the brick walls of the former school in the Dorpstraat of Cothen in the Dutch province of Utrecht and in the brick walls of the Dutch Reformed Church of Hekendorp in the Dutch province of South Holland. The village school stood behind this church until 1985. These grinding grooves of pencil marks look very different from the grooves that we consider to be scratch marks. They are narrow and relatively deep with fairly steep 'walls'. They are mainly located on protruding brick edges.



A phenomenon that resembles scratch marks: grinding grooves created by pencils for writing on slate.

3) Bowl-shaped recesses that strongly resemble cups, which were created because the bolts that attach the hinges to the church doors hit the walls when the doors were opened. The doors and bolts that caused the phenomenon are usually still present as evidence of this origin.

4) Impact craters from bullets and other projectiles are often mistaken for cups. Such impact craters are quite common in buildings that were subject to shelling during the Second World War or other wars. Impact craters are hollow and have crumbled edges. Often the surface of the cavity is uneven. Real cups have a smooth surface and smooth edges.



A phenomenon that resembles scratch marks: grinding grooves on large prehistoric grindstones where stone axes were sharpened during the Neolithic. Left: Slenaken (Netherlands). Middle and right: Zonhoven (Belgium)



Grindstones from Velaine-sur-Sambre in Belgium (photo 1+2) and Saint -Benoît in France (photo 3+4)



This small grindstone from North Africa for polishing arrow shafts is also a phenomenon that resembles scratch marks (photo 1). Semi-finished axes such as in photo 2 were sharpened on prehistoric grindstones. After polishing they looked like the stone axe in photo 3. The pin (3 cm long) gives an indication of the size.

Conclusion

We have now found a lot of information about scratch marks in books, articles and on the internet. In this way we discovered that there are several theories about their origin. Not everyone adheres to the same theory. This story gives our vision and our conclusions. Our conclusions partly confirm the aforementioned information, but they also consist of additional and slightly different ideas about the scratch marks and their origin.

The aforementioned information also provided us with locations of scratch marks. We visited a number of these locations to see the scratch marks ourselves. However, we found most of the locations with scratch marks by systematically visiting and examining churches and other old buildings in various areas. For most of the scratch marks we discovered during our searches, no information can be found in the literature. This most likely concerns 'new finds'. If we add up all the locations we visited, we arrive at a significant number of locations in The Netherlands, Belgium, Germany, Luxembourg and a part of France. At this moment we have already found (visited) more than 480 locations with grooves and cups. And this number will certainly increase even further as we start investigating new towns and cities for their presence. Scratch marks also occur in countries other than those mentioned here. An internet search for crab tracks in (the rest of) France and Great Britain has already yielded several locations. They even occur in other European countries and beyond. On the German website Schabespuren auf Stein (Rillen und Näpfchen) (www.schabespuren.de) you can find reports of scratch marks from all over the world. They are grouped by country so that information about them can be viewed per location (with photos). Nowadays, in addition to reports from the above-mentioned countries, we also find reports from Austria, Switzerland, the Czech Republic, Denmark, Spain, Croatia, Italy, Norway, Poland, Romania, Sweden, Slovakia, Egypt, Tunisia, Turkey, Israel, Armenia and even Uzbekistan. In addition, this website contains an extensive bibliography and all kinds of other interesting information about this phenomenon.

However, there are still many questions regarding scratch marks. The last word on this has certainly not yet been spoken.

Publications and websites with information about scratch marks

The information we found during our search about scratch marks in books, articles and on the Internet was very interesting. Often a particular story or website was only partially devoted to the grooves and cups. Sometimes we got a significant amount of information, other times we just found very limited information. From all these sources we have made a selection that may be of interest to

those who want to know more about this subject. It is important to keep in mind that websites are time recordings. Websites are often modified over time. This not only makes new information available, but also removes information.

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Locations and customs mentioned in the text may have changed since the original Dutch version of this publication (January 2014) was published.