

## Re: KRS – artificial weathering

**Source:** <http://sci.tech–archive.net/Archive/sci.archaeology/2004–09/2065.html>

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**From:** zolota (zolota3\_at\_REMOVEshaw.ca)

**Date:** 09/17/04

Date: Fri, 17 Sep 2004 06:11:45 GMT

"Martin Reboul" <martin.reboul@SPAMFUKvirgin.net> wrote in message  
news:Joo2d.361\$YE3.166@newsfe6–win.ntli.net...

>

> *"I E Johansson"* <ingerxjohanssonx@telia.com> wrote in message

> news:W4o2d.103488\$dP1.373031@newsc.telia.net...

>>

>> *"Eric Stevens"* <eric.stevens@sum.co.nz> skrev i meddelandet

>> news:envjk0tfv5c3s7c9j8rfidcvbsepgagkc3@4ax.com...

>> > On 16 Sep 2004 13:02:13 –0700, trolleyfan@earthlink.net (David

>> > Johnson) wrote:

>> >

>> > >Eric Stevens <eric.stevens@sum.co.nz> wrote in message

>> news:<2qtik0pbvlk7du6s6c3f4ke6fjsh6q81bv@4ax.com>...

>> > > On Thu, 16 Sep 2004 04:45:43 GMT, "Martin Reboul"

>> > > <martin.reboul@SPAMFUKvirgin.net> wrote:

>> > >

>> > > >

>> > > > *"Daryl Krupa"* <icycalmca@yahoo.com> wrote in message

>> > > > news:c70365ef.0409151557.51d3e94b@posting.google.com...

>> > > > > *"zolota"* <zolota3@REMOVEshaw.ca> wrote in message

>> > > > news:<7fU1d.418855\$M95.214117@pd7tw1no>...

>> > > > >

>> > > > > <snip genuine scholarly discourse, for a welcome change>

>> > > > >

>> > > > > Z:

>> > > > > *Finally, some meat to chew on.*

>> > > > > *Thank you very much for elevating the standard of discussion;*

>> > > > > *very useful and interesting you have been, with this artificial*

>> > > > > *weathering material.*

>> > > > >

>> > > > > > *Does anyone here see an error in my thinking, or*

>> > > > > > *a way that such artificial aging could be detected?*

>> > > > >

>> > > > > > *Not yet, but I'm trying to play Devil's Advocate and wear away*

>> > > > > > *at it until a few pieces fall away.*

>> > > > > > *But here's a poser:*

>> > > > > > *is there some commonly–available sticky substance that is immune*

>>>>> *to the effects of sulfuric acid, that might have been used to  
>>>>> mask the calcite and so protect it from degradation?*  
>>>>>  
>>>>> *>Bitumen, but that would be hard to remove. Good old butter or lard  
>> would do the  
>>>>> >job quite well ...  
>>>>>  
>>>>> Nope. They would be hydrolysed by the acid.  
>>>>>  
>>>>> > ... and be easily removed with soap and a good scrub. That's what  
>>>>> >I'd go for.  
>>>>>  
>>>>> ... and you would fail.  
>>>>>  
>>>>> >I doubt if they were that sophisticated however. Zolota's  
>>>>> >'weathering  
>> plan'  
>>>>> >sounds like the sort of thing that might well have been done.  
>> Basically, just an  
>>>>> >acceleration of the natural weathering processes using empirical  
>>>>> >and  
>>>>> >undetectable methods – all available in the C19 ....  
>>>>>  
>>>>> What are these undetectable methods?  
>>>>>  
>>>>> > .... without needing a laboratory.  
>>>>> >The use of salt and ice (to lower the temperature to almost –32C or  
>> zero F) is  
>>>>> >also hardly rocket science, and would have been well known back  
>>>>> >then.  
>>>>>  
>>>>> Its also a good antifreeze. Was that quite your intention?  
>>>>>  
>>> >I see someone's never made ice cream...  
>>>  
>>> Salt and ice makes a freezing mixture with a lower freezing point. Get  
>>> the three together and you get a lower temperature mix. But to do that  
>>> you have to have liquid present. What Martin is looking for is solid  
>>> ice, not a sluch of water and ice. Adding salt will not help him  
>>> unless he does it in a separate bath which is somehow going to freeze  
>>> the KRS by conduction. Its a pity they didn't have plastic bags in the  
>>> 19th century. :-)  
>>>  
>> Since I was one had the responsibility delivering salt to put on  
>> ice-roads  
>> here in Western Sweden 1976–79 I can confirm that between –6 degrees  
>> Celsius  
>> and +5 degrees Celsius (when supercold rain falls on ice-roads) the result  
>> when salt is spread on ice-surface will be melting water. As Eric  
>> indicated  
>> the air around helps the salt melting the ice and there will be no*

- >> *reaction*
- >> *alike David's imaginary weathering scenario. So I agree with Eric: What a*
- >> *pity they didn't have plastic bags in 19th century :-)*
- >
- > *And they put you in charge of delivering road salt – in Sweden!?*
- > *No wonder Volvo's are built like tanks!*
- >
- > *It's nothing to do with the air, it's simply that salt water freezes at a*
- > *lower*
- > *temperature than fresh.*
- > *Cheers*
- > *Martin*

A salt–ice–water mix will have a depressed freezing temperature but mixing the three can only be the sum of the sensible heat of the mix. If you started with 1 kg of ice at –9 degrees C, 500 g of ice water, and 100 grams of salt you will arrive at –6 C or so. If I was faking a surface I'd just drop the hot rock in ice water, it's the rate of cooling that does the most damage. A rock left outside overnight on a three dog night then hit with boiling water would also spall! If anything these methods may be too strong, but the serious forger would never have left something she was not satisfied with.

It also seems to me that some stone masons must have traditionally had some methods of artificially aging rocks. Say for example that a church wants to put an addition onto one side. The master with the reputation who could age the rocks to look like the originals would be in demand. It's probably a lost art today. Shall we all experiment with rocks using our freezers and kettles?

Despite what others say, a rock that had been in salt water would show no evidence of the salt later.

Z