

# Scholars and Theory of Science former Re: The Vinland Map's Ink

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*Source:* <http://sci.tech-archive.net/Archive/sci.archaeology/2005-04/msg00722.html>

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  - *Date:* Tue, 26 Apr 2005 10:51:56 GMT
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Eric,

it's ok that you aren't prepared to discuss VM, and I hadn't expected Tom to understand the Theory of Science so his suggestion only say that he doesn't know what's up. Anyhow here it is.

When an artifact is found, no matter of from which period, there are four things that's needed before the position possible or probable genuine artifact can be reached:

1\* Dating of the material of the artifact

– that's done in VM case and give 1430's for the parchment. The ink can't be dated using known methods without destroying the artifact itself. I return to the ink-question below but want's to remind everyone that a scholarly behavior never ever allows the scholar to start from a biased position without declaring ones position in advance.

2\* Study of the context. That's been done. It's been established that the parchment has been 'bound' together with the Tartardocument.

– While non Scandinavian scholars aren't aware of the contacts between Scandinavians and the Tartars from Emperor Julian's days, others are. That connection has contemporary sources to lean to.

the 'wormholes' been discussed

– and full explanation for them has been given. They are in the 'right' places compared to the wormholes in the Tartar document

AND

in an url I myself sent from one of Historiska Museet's site there are information given that show at least one natural cause for such 'wormholes'.

Ink that hasn't been completely blended.

The ink has been discussed numerous times without anyone presenting a full formula for the ink.

– BUT the assumption that the anatase couldn't have been made before 1920's falls down in pieces when all background information for anatase is presented:

a) anatase exists in nature – which in the first presented anti-VM theories it was supposed not to.

b) anatase in mineral sand can exist in round and uniform way.

For example when ceramic powder is used and prepared to be used it can look this way:

[http://www.altairnano.com/main\\_content/DevProj\\_TSGP.html](http://www.altairnano.com/main_content/DevProj_TSGP.html)

and TiO<sub>2</sub> in nature can exist as round grains

"Mineral grains from the Kirkland soil. a. Potassium feldspar sand grain. b. Intermediate Na–K feldspar grain rounded from water transport but still showing cleavage features. c. Quartz grain which appears to have had a complex history of overgrowths. The flaky material at the center of the grain is adhered dioctahedral mica. d. Rounded TiO<sub>2</sub> grain. "

<http://www.cals.ncsu.edu/research/s207/sem/figlist.htm>

On the other hand it's not true that synthetic anatase, which is a rare product since it's normally anatase which is heated to get rutile...., always is round and uniform....

<http://www.markusniederberger.ch/postdoc.html>

[http://www.rsc.org/CFmuscat/intermediate\\_abstract.cfm?FURL=/ej/JM/2003/b305718f.PDF](http://www.rsc.org/CFmuscat/intermediate_abstract.cfm?FURL=/ej/JM/2003/b305718f.PDF)

Which leads to one single conclusion – the anatase found on VM is one thing, proving it to be a synthetic anatase falls because it does exist in round grains in nature when filtered by water and in simple water added process before filtering – same way the sand used in Medieval Age always were prepared before being dried and poured on wet ink.

Which leads to one single conclusion:

At best The anatase synthetic theory needs to be reformulated/reworded, at worst it falls to pieces without any more plausible logic arguments for such a theory at all

3\* Does there exist any natural causes for anatase to exist in ink? Please remember that anatase existed almost as long as the Earth existed and a lot of it is today found in mineral sand which in the past been in water. Also please remember that while some scholars try to claim that knowledge of round anatase didn't exist before 1920's, it was written about it in a school book for 16–18 year old students in 1880's which also included two ways of testing if the TiO<sub>2</sub> was rutile or anatase...

– Yes it does exist more than one natural reason/cause why anatase can be found in Medieval ink:

a) the anatase exists in nature and when in watered and filtered mineral sand the grains can be rounded and of course uniform depending on the filtering process. Washed and filtered mineral sand was used in Medieval Age to dry ink. That's a well documented process used up to the days when blotting papers came to be used. It's not only possible but happened more than once that grains and/or single crystals from the sand remained in the ink after the ink had dried.

That's one natural cause that could explain anatase in form found in VM's ink.

b) anatase exists in clay and kaolin in nature. Many of the pots used for inks were made of ceramics. Anatase is known to exist in ceramic powder which of course can exist in pots of ceramic material. That anatase can easily mix with the ink no matter which type of ink was used as well as it can 'cling' to the writing pen after the pen has been dipped in the ink and the overflowing ink been rubbed off on the upper edge of the pot.

That's one other natural reason why anatase can exist in Medieval ink.

c) ink's composition. Which isn't known thus it can't be presumed that none of the contents included in the formula can't have had anatase in it. Only strawmen would ever consider that position being able to take under usage of theory of Science methods.

d) anatase has been used from Ancient Age in color-formulas. No matter that the word anatase wasn't known that fact can't be disputed because  $TiO_2$  in the forms used for white colors always contained and contains some, up to 50% anatase, in it.

As all who have been working with Medieval documents knows it happened more than once that the documents had pictures and that Letters could be 'painted'. Thus there also exist a slim, but possible way for anatase to come on to the pen and when dipped in ink mixing with it.

Then there is of course all the what 'if' scenarios being discussed as if they were the only way to explain the anatase. Contamination and other such hypothetical assumptions.

As long as there exist at least one possible way to explain why the anatase could have come into the VM ink, it's not possible to start from a position that the anatase 'must' be considered synthetic!

4\* the study of the context behind a 1430's map must be performed before it's possible to claim VM to be a forgery. To my knowledge none except me have done a deep study in that respect. None of the scholars of History who spoken against VM being genuine has presented one single of the diplomas nor referred to the speeches held at the Basel Convent which called for the 1430's map to be drawn.

Conclusion Given all factors above all cases using the Anatase – synthetic theory has fallen apart. For such theory to be presented from now on it calls for the theory to be reformulated with all needed premisses for such a theory taken into consideration before it's presented. At present stage nothing presented against VM-map can and shall be used against it if the scholar in question wants to act in line of theory of Science.

Inger E

- **Follow-Ups:**

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