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'The Map Is a Forgery'

Twenty years ago I worked on the composition of the ink on the Vinland Map. The Feb. 26 news story by Michael Farquhar that deals with the authenticity of this map reports on some critical findings about the ink that require further explanation.

Mr. Farquhar notes that Walter McCrone found ink particles that contained the mineral anatase in a crystalline form that would not have been available as a commercial pigment until about 1920. This crucial finding is the heart of the issue surrounding the 1974 forgery declaration. Anatase is one of several minerals that contain the element titanium. It is important to emphasize that it is the presence of rounded, well-crystallized anatase crystals on the Vinland Map, and not the simple presence of the element titanium, that is critical.

As the presence of carbon in an analysis could mean the presence of diamond, graphite or just carbon-black, it is mineralogy and crystallography that is important, not just chemistry. Although the scientists at Davis, Calif., who studied the Vinland Map in 1985 were able to find the element titanium, their proton-beam technique was unable to tell if the titanium was present as anatase. It was incapable of imaging particles or of analyzing their crystallography and mineralogy.

The analysis took place over an area up to 30,000 times larger than the methods used by Dr. McCrone, or even by others in the Davis laboratory who examined individual particles from the crease in the map. The "trace" amounts of titanium that the Davis group reported are thus at odds with the other high-resolution electron microscopic approaches. Indeed, if trace amounts were real, the other analyses could not possibly have found what they found.

The Davis report that was submitted to the Yale University Library in 1985 states that titanium was "the most frequently found element in the ink [of the map] . . . found 65 percent of the time" and also says that titanium was not found at all on the accompanying text, the Tartar Relation. The Davis measurements also show that the titanium was clearly associated with the ink and not with the parchment.

Thus, in combination with the undisputed presence of anatase on the Vinland Map, these facts support the view that the map is a forgery. The Yale University Press claims that other medieval documents also contain titanium, and by assuming that titanium means the presence of anatase, asserts that the Vinland Map is similar to these other documents. Yet not one of these old documents has yet been found to contain anatase.

Bottom line? Until those who assert that the Vinland Map has been "vindicated" can present evidence, freely available and open to scrutiny, that shows the presence of a well-crystallized anatase free of clay mineral contaminants on several other indisputably genuine medieval documents, then the forgery conclusion drawn by Walter McCrone in 1974 still stands.

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