THE JOURNAL OF NAVIGATION

VOL. 53 MAY 2000 NO. 2

E. G. R. Taylor and the Vinland Map

Michael Richey

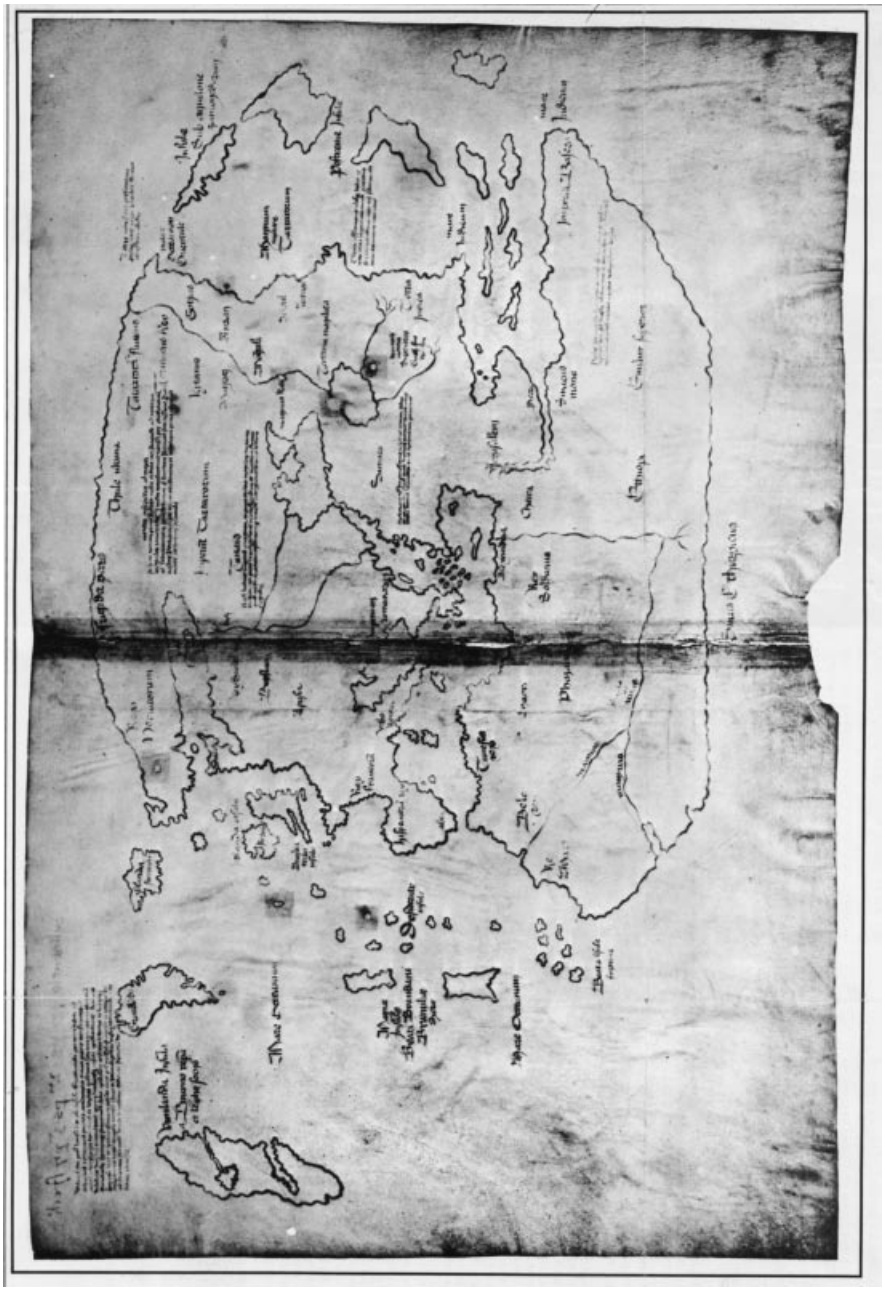
The Eva G. R. Taylor Lecture is jointly sponsored by the Institute with the Royal Geographical Society, the Hakluyt Society and the Society for Nautical Research to enable a lecture to be given every year by a distinguished scholar in one or other of the branches of knowledge to which Professor Taylor made such notable contributions. The 1999 lecture was presented at a meeting held at the Royal Geographical Society on 30 November 1999. Michael Richey first describes the events leading up to the dramatic announcement by Yale University in 1974 that the famous Vinland Map it had acquired some nine years before might well be a fake; and then the steps taken to try to rehabilitate it. Professor Taylor was almost certainly the first scholar to set down in detail the reasons for believing the map to be a forgery. The map remains a mystery, for while the evidence seems for the most part to point towards forgery, who by and when and why remain in the air. Michael Richey is a Gold Medallist and a former Director of the Institute.

KEY WORDS

1. History. 2. Maps and Charts.

1. INTRODUCTION. On 11 October 1965, the day before Columbus Day in America, Yale University announced the discovery of a map, which it proclaimed to be 'the most exciting cartographic discovery of the century'. Provisionally dated as AD 1440, it would be by far the earliest map of any part of the Americas, and incidentally the first intimation of a hitherto unknown Norse school of cartography. Its most prominent and arresting feature was the depiction in the north-west part of

https://doi.org/10.1017/S0373463300008754 Published online by Cambridge University Press



The Vinland Map. Reproduced from *The Illustrated London News*.

https://doi.org/10.1017/S0373463300008754 Published online by Cambridge University Press

the map of the island of Vinland, the hitherto unidentified part of the American coastline discovered by the Norsemen over a thousand years ago. The announcement, which necessarily reinforced the idea of a pre-Columbian discovery of America, caused much consternation among the Italian community in New York, exacerbated perhaps by the fact that the day chosen was both the day before Columbus Day and the day after the newly instituted Leif Eirksson Day. At the time, the recently excavated archaeological evidence for a Norse settlement in Greenland was not widely known, and when the map was discovered had indeed not yet been dug up.

On the day of the announcement, Yale University Press launched, with considerable panache, an impressive and finely produced scholarly publication about the Vinland Map and the document it was bound in with, the *Tartar Relation*, a hitherto unknown account of a papal embassy to the Great Khan that records the mission to Tartary of the Fransiscan John de Plano Carpini taken down and edited in 1247 by another friar, C. de Bridia. The book entitled *The Vinland Map and the Tartar Relation* (Skelton *et al*., 1965), later to become a runaway best seller, had been prepared in great secrecy by three distinguished scholars: R. A. Skelton, Superintendent of the Map Room at the British Museum; Thomas E. Marston, Curator of Medieval Literature at Yale University Library; and George Painter, assistant Keeper in the Department of Printed Books at the British Museum. It provides an authoritative account of the two documents bound together and clearly associated with each other, since the *Tartar Relation* is the source of many of the legends on the map. The map itself is a pen and ink drawing on a sheet of vellum folded vertically in the middle to make two adjoining leaves, and depicts the Old World within an elliptical framework and with north at the top, both unusual features for a map of that period. The legends on the map attribute the discovery of the prominent island of Vinland to a voyage made together by Bjarni Herjolfsson and Leif Eirksson in about AD 1000 which, as the authors of the book tacitly acknowledge, does not altogether correspond to what we know from the surviving sagas. The *Tartar Relation* is written on paper which has been traced indisputably to the Rhine Valley and dated at about 1440. The names and the legends on the map appear to be in the same hand as the *Tartar Relation* and, according to Skelton in an early exchange, 'a minute and expert scrutiny of the names and legends, letter by letter and word by word, revealed no palaeographic anomalies or errors; the hand, in all its characteristics, matched that of the textual documents' – an assurance that would not be so readily accepted today. The modern binding of the two documents dates somewhere between 1900 and 1957.

Because of the strange circumstances surrounding its discovery and purchase, the Vinland Map has no recorded history prior to 1957 and no guarantee of authenticity beyond the documents it is bound in with. It has, as the anonymous reviewer for *The Times Literary Supplement* put it, no ancestors, no close relations and no descendants. Inevitably, a document of such startling novelty without any kind of provenance raised a groundswell of disbelief from the beginning. Almost unaccountably, after nearly forty years the dispute still rages. Indeed, the publication in 1995 of a new edition of the book, with a handful of fresh essays supporting its authenticity, has if anything sharpened the debate and produced a crop of important new studies pointing to the map's status as a fake. My own introduction to the controversy came shortly after Yale made its original announcement, when I received out of the blue an undated and almost scrawled note addressed from a nursing home and signed E.G.R.T. Besides congratulations on some task the Institute of Navigation

https://doi.org/10.1017/S0373463300008754 Published online by Cambridge University Press

had brought to fruition, the note bore simply the bleak message: 'The Vinland Map is a forgery, as I can prove'.

2. PROFESSOR TAYLOR. Perhaps at this stage, before discussing her views on the map's authenticity, it might be appropriate to say something of E. G. R. Taylor herself, who died over thirty years ago and in honour of whose many achievements as a geographer this series of lectures was founded. In the course of her long and productive life, the Emeritus Professor of Geography at London University made many contributions to geographical knowledge, but it was as a historian of geography, of cartography and above all of exploration and navigation that she so excelled. She was always deeply conscious of the relationship between science and social life and, although her works were primarily about ideas, the discoveries, inventions and artefacts she wrote about with such skill were necessarily manifested in persons, and in all her writing she was acutely aware of the personality behind the person. As Helen Wallis wrote of her work on early cartography, she combined a mastery of technical detail with a warm interest in the personalities involved, so that the man as well as his maps emerged. Her great work on the mathematical practitioners was also essentially a book about people, a chronicle of the lesser men – teachers, technicians, craftsmen, textbook writers and so on – but for whom, she would say, the great scientists would remain sterile in their generation. It is I think worth bearing this characteristic in mind when considering her views on the authenticity of the Vinland Map.

E. G. R. Taylor was an extraordinarily good writer. She would never put pen to paper until she was absolutely certain of what she wanted to say and, with her clarity of mind and wonderful mastery of the language, this gave the writing enormous vigour. My own long and fairly close association with the professor was I suppose, friendship apart, primarily a literary one based, that is to say, on her scholarship and learning, not mine. I saw myself in this connection as the practising navigator with a lively interest in the history of his trade, and in many ways this suited her book. The association began in 1948 when I asked her to contribute three articles to the newly founded *Journal of the Institute of Navigation*, which I then edited and to which, over the years, she was to contribute a further 30 or so articles, more than to any other publication. The Institute provided the kind of readership she wanted, broadly speaking the mathematical practitioners. Later, the Institute was to become responsible for the publication by Cambridge University Press of her magnum opus, the two volumes of *The Mathematical Practitioners of Tudor and Stuart* and later of *Hanoverian England*. In 1956, she wrote what some consider her chef d'oeuvre, a history of navigation from Odysseus to Captain Cook, which she called *The Haven Finding Art*. It was written for the general reader rather than the scholar and remains to my mind unequalled. At one stage, we wrote a little book together called *The Geometrical Seaman*.

3. EVIDENCE OF MALPRACTICE. The scrawled note was not the first I had heard of the newly discovered map. In a letter written late in 1960 about a review she was writing of a new edition of the Journal of Christopher Columbus (with, as it happens, an appendix by Skelton), she said she hoped the secret of the newly discovered source map that Skelton was hanging on to would be revealed before she finished the review. Apparently it is, she said, the oldest map (at any rate

https://doi.org/10.1017/S0373463300008754 Published online by Cambridge University Press

pre-1492) with a network of lat-long apart from Ptolemy's. There is no hint of incredulity here but in 1962, when she had been shown by Skelton a photocopy of the Vinland Map, she later reflected that 'as someone who has studied ancient cartography for over forty years, it simply does not carry conviction. It is not a product of the medieval mind'. Paradoxically, George Painter, one of the authors of the book, had exactly the opposite perception, finding the map physically, cartographically and textually to be the product of medieval minds and hands, working with medieval materials and ideas.

Professor Taylor was, so far as I know, the first scholar to record detailed arguments, as opposed to general impressions, for believing the Vinland Map to be a forgery. In the introductory notes to the paper (Taylor, 1974) that was ultimately published, she relates how, in the summer of 1962, she happened to be making (for what purpose she does not say) a tracing of the coasts of Newfoundland and Labrador and out of curiosity laid this tracing over the coast of Vinland on the (photocopied) Vinland Map. A section of it fitted precisely, both in shape and scale. This might, she concedes, have been pure coincidence, but it was sufficiently remarkable to lead her to a close examination of the whole map. At an early stage, three more examples of what she saw as apparent malpractice came to light that indicated without doubt in her view that the Vinland Map was forged. She offered the evidence to Skelton, who seems to have rejected the idea of forgery out of hand. Accordingly, she continued her close scrutiny of the map and laid the results aside until the time would come to publish.

Alas, when that time came with the publication of the Yale book, she had suffered a stroke that badly damaged her eye muscles so that by the end of that year she was virtually blind, although her mind was clear enough. The paper itself, as it happens, presented a number of difficulties, mainly to do with the diagrams, which in the normal course of events one would have been able to ask her about. At this stage, it seemed vital that her views on such a contentious subject should not be misrepresented to the detriment of her reputation as a scholar. It was in these circumstances that, after discussing the matter with some of her closest associates, and notably Professor Eila Campbell of Birkbeck College, Dr Alwyn Ruddock and the Map Curator at the Royal Geographical Society – Gerald Crone, I prepared a short summary of the paper which, with her tacit approval, was published in this *Journal* (Richey, 1966). Skelton wrote a spirited reply in the following number (Skelton, 1966) and this exchange remained the only statement of her position on the Vinland Map until, some eight years later, an examination of the ink on the map by spectrographic analysis suggested forgery, and it seemed proper to publish the paper in full. By then Professor Taylor had died.

4. THE MAP'S HISTORY. Before considering Professor Taylor's arguments in any detail, it may be useful to look at what little we know of the circumstances of the discovery of the Vinland Map and its acquisition by Yale. In Geneva in September 1957, Enza Ferrajoli de Ry, an Italian antique-book dealer long resident in Barcelona, showed the Vinland Map and its associated document the *Tartar Relation* to Joseph Irving Davis of the Hampstead firm of Davis and Orioli in the presence of another dealer, Nicholas Rauch, to whom the documents were on offer. The manuscripts had already, it appears, been seen by booksellers in Paris, Geneva and London. Uncertainty in particular about the alignment of wormholes in

https://doi.org/10.1017/S0373463300008754 Published online by Cambridge University Press

the binding of the two documents caused Rauch to turn the offer down. Ferrajoli with Davis later took the manuscripts to the British Museum where they were looked at by Skelton, Superintendent of the Map Room, Painter of the Department of Printed Books and Dr Schofield the Keeper of Manuscripts. Dr Helen Wallis, who was later to succeed Skelton as Map Room Superintendent, also caught a glimpse of them at this time. Whatever transpired (and one must assume a sale was in prospect) no transaction took place and the manuscripts returned with Ferrajoli. However, soon afterwards in the office of Nicholas Rauch, Laurence C. Witten, an antique-book dealer in New Haven, Connecticut was told of the manuscripts and (according to his first account, which he later confusingly changed) visited the owner's library in Spain and, convinced of the authenticity of the two documents, bought them both for $3500, paying Ferrajoli a commission. Back in the States, the two documents were shown to Alexander Vietor, curator of Yale's map collection and to Thomas Marston the curator of medieval and renaissance literature. Vietor straightaway asked Witten if, should he decide to sell, Yale might have first refusal. Witten was not anxious to sell at that time until he had been able to establish the authenticity of the documents. He thus withdrew them from his list and, for reasons that are not immediately clear, gave them to his wife.

On the blank recto of the first leaf of the map, there was a somewhat puzzling Latin legend reading (as translated) 'Delineation of the first part, the second part and the third part of the *Speculum*', which seemed to infer that a part of the manuscript was missing. Witten asked Ferrajoli if he could arrange a further meeting at the original owner's library to see if the mystery of the hypothetical, missing document could be cleared up. This visit, according to Witten's early account (which he later contradicted) was made, but to no avail. In the meanwhile, Marston had bought on spec, for a modest £75, a fragment of the medieval document the *Speculum Historiale* of Vincent of Beauvais that he had noticed in an advance copy of the catalogue of Davis and Orioli. Witten was shown the fragment, with another document purchased at the same time, and straightaway noticed an affinity between the *Speculum* and the *Tartar Relation*, in the dimension of the leaves, the mixed vellum and paper, the character of the writing and so on. He borrowed the manuscript for a short period from Marston, to find not only that the dimensions of the two were precisely the same but that the paper bore the same watermark and, more importantly, the wormholes on the three documents now matched up. It could thus safely be assumed that the three documents from the same library, the *Speculum*, the Vinland Map and the *Tartar Relation* had originally been bound together, but in a different order with the map at the front of the volume and the *Tartar Relation* at the back, as indicated by the wormholes. This made sense too of the puzzling Latin inscription. At some stage, the three documents had obviously been taken out of their cover, perhaps for repair, and the *Speculum* replaced but the *Tartar Relation* and the Map rebound together. The *Tartar Relation* and the *Speculum* could both be unambiguously dated from the paper and watermark and would thus serve to date the Vinland Map. Marston responded to this revelation by presenting the *Speculum* fragment to Mrs Witten, one assumes so that the three documents should remain together. He asked only that should Mrs Witten decide to sell, Yale might have first refusal. Mr Vietor was informed accordingly.

This fortunate, if on the face of it faintly improbable, course of events enabled Witten now to offer the Vinland Map and its associated documents to Yale University

https://doi.org/10.1017/S0373463300008754 Published online by Cambridge University Press

Library. The price he asked, however, seems to have been outside what the Library could afford, and he was referred to an anonymous Yale benefactor (now identified as Paul Mellon) who purchased the documents for approximately $300,000 and entrusted Skelton, Marston and Painter with the task of preparing, in the utmost secrecy, the definitive study of the documents. Should the map be authenticated, he would donate it to Yale which, when the book was in galley proof, he did.

The map's pedigree, its history before the purchase by Witten in 1957, remained entirely in the dark, and Witten consistently maintained that as a condition of sale he had promised under no circumstances to reveal the original owner's identity (for reasons supposedly connected with tax or export difficulties). Yale seems to have done its best to find out more, and at one stage even urged Witten to write a letter 'to be opened 9000 years after everyone is dead' revealing the map's origin. Whether this ludicrous proposal was taken up, or indeed seriously intended, is not clear, but Witten's stubborn refusal to shed any light on the map's origins undoubtedly added to a general sense of unease about its authenticity. The map had so far been subjected to no rigorous physical examination nor, except for what has been taken to be Marston's somewhat lightweight essay in the book, to any serious palaeographic study. Readers were expected to accept its authenticity on trust. However, in November 1966, a Vinland Map conference was held at the Smithsonian Institution in Washington DC, to address some of the questions that remained unanswered some eight years after Yale had acquired the map. The meeting was attended by a representative number of experts from the United States and a few from Europe, but as the proceedings were not published for another five years its influence was largely dissipated.

5. THE MAP EXAMINED. In a private letter written about that time, Skelton regretted that the palaeographic and bibliotic evidence on the map had not been given more cogent and explicit presentation in the book (as he claims to have been telling Yale for three years). There is a chance, he said, that the map and the other documents might be sent over to London for exhibition, which would provide just the opportunity for further palaeographic examination.

And so it turned out, for early in 1967 the three manuscripts were brought to Europe and sent on exhibition in Scandinavia, in the Netherlands, and in London where they spent some days in the Research Laboratory of the British Museum. Here the opportunity was taken to examine the documents (the first close examination to which the map had been subjected) by optical methods such as ultra-violet light illumination and low-power binocular microscopy. The examination showed that the ink used on the map differed from the common iron-gallo tannate used on the other two documents, and further was quite unlike any medieval ink known to the two experts who conducted the examination. The subsequent report was private but clearly played its part in inducing Yale to take the matter of the ink further and, in 1968, the Chicago firm of McCrone Associates, specialists in small-particle analysis, were asked to examine the map and by 1972 had developed the necessary techniques and equipment to do so. Their examination by ultra-microanalysis confirmed that the ink on the map was different from that on the two associated documents, but also found that the globules in the map ink matched in chemical composition, crystal structure, size and shape, commercially produced titanium white that had only been available since about 1920. This scientific evidence, although it was later to be

https://doi.org/10.1017/S0373463300008754 Published online by Cambridge University Press

challenged, indicated clearly that the Vinland Map was a forgery, and Yale was eventually placed in the unenviable position of having to admit the possibility. On 26 January 1974, Yale University Library publicly declared that the famous Vinland Map might be a forgery. Witten was asked to refund the purchase price of the map to the donor, which he was apparently unable to do for reasons we will come to. With great magnanimity the donor, Paul Mellon, said he had always accepted that there would be an element of risk in the undertaking and now only regretted that the map had turned out to be a fake.

An occasion of considerable significance in the whole story of the Vinland Map was the symposium held in London at the Royal Geographical Society in 1974 under the general title 'The Strange Case of the Vinland Map' and organised by Helen Wallis, Skelton's successor as Map Superintendent at the British Museum (Wallis *et al.*, 1998). The eight speakers included Walter McCrone, who revealed the substance of his report to Yale and A. D. Baynes-Cope who had originally examined the map in the Research Laboratory of the British Museum. Yale had been informed of McCrone's participation and agreed to release the findings of his report a week before the meeting, which they did in their announcement on 26 January. It was then that it seemed appropriate to publish what in effect amounts to Professor Taylor's elegant cartographical reconstruction of where the forger obtained his information and how he used it.

6. TAYLOR'S ANALYSIS. McCrone's description of how the forger worked was that he would first have drawn the outline of the map in thick yellow-brown to simulate the stain along the black ink lines that would develop as the ink migrated along the fibres and yellowed with age. Then, with great delicacy, he would have added the black ink line centred over the yellow one. The very presence of this double ink line was itself an indication of the intention to deceive by making the map look ancient. Such a technique would have been quite consistent with how Professor Taylor thought the map was drawn, but her paper, written ten years before McCrone's report, is entirely concerned with the sources the forger used for his information, not how he used them. Her arguments depend on precise measurements not chance similarities of outline, and although she accepts that the forger might deliberately have distorted some of his source material, he would she believes have retained the scale. The sources she identifies are comparatively few, all it should be noted contemporary, and all as it happens readily available in the United States where a map of Vinland would have been particularly welcome, and where in the event the map found a buyer. The sources named are *The Elements of Map Projection* by Deetz and Adams, an official US publication, the run of *Imago Mundi*, the international journal of the history of cartography, a school atlas (she suggests Dierke's) and a facsimile of Maggiolo's world map of 1511 published by Rand, McNally, and in a brochure from the American cartographer Goode. The professor starts off under full sail, as it were, with a characteristic broadside.

> Vinland itself is derived from a map of the North Atlantic in Deetz and Adams with a modification apparently suggested by an article in *Imago Mundi*. It is on a scale of approximately 1/12 million whereas Greenland, borrowed from Goode, is on a scale of 1/66 million, the two being in ludicrous disproportion. The main outline of the Old World is on a scale varying from 1/30 to 1/42 million, while the whole map is fitted into an elliptical boundary or frame traced from one on Aitoff's projection in Deetz and Adams. The formula

https://doi.org/10.1017/S0373463300008754 Published online by Cambridge University Press

> for this ellipse was certainly not known in the fifteenth century, and it will be shown that one of the parallels was used as a guideline on the Vinland Map itself. Nor can it be overlooked that the Plate in *The Elements of Map Projection* on which the Aitoff projection is drawn is the one immediately following that which provided the elements of the coastline of the suppositious Vinland.

And so on. The case throughout is closely argued, with baffling detail and great verve.

It is, of course, virtually impossible either to prove or to disprove most of the professor's assertions. It is all a question of likelihood. It is possible, for example, that the mutual positions of the Shetlands, Faeroes and Iceland, that would have been known by Norse seamen in terms of the traditional concepts they understood, might appear correctly on a fifteenth century map, should there be one. What is highly unlikely, as she points out, is that the draughtsman of the map should not only make the same mistake about the position of Ireland as Mercator in his map of 1569, but that he should also have hit upon precisely the scale to which that map would be reduced in a modern publication. There are countless similar instances where measurements and tracing paper seem to establish an uncanny relationship between the map and the sources identified. Some take an odd twist that reinforces her contention. The island of Vinland, for example, allegedly taken from a plate in Deetz and Adams of the Labrador–Newfoundland coastline, has been scrambled by a rotation eastward of two points of the compass, which is exactly the error introduced into some sixteenth century charts to correct for magnetic variation. But, the professor points out, the forger has been too clever here because the Norsemen neither possessed the magnetic compass, nor drew charts. The Vinland Map could, in the professor's view, be condemned as a forgery on the basis of its presentation of Greenland alone. The draughtsman seems to have copied a small-scale modern map from an atlas she identifies, leaving out the grid of the projection and reorienting the coastline. The north coast of this great island reaches within six degrees of the pole, but there is no evidence from the sagas or anywhere else that the Greenlanders went further north than about 76 degrees. Yet on the map the entire north coast is delineated. That members of a peasant community of farmer–fishermen should undertake exploration for its own sake seemed, in the professor's view, highly improbable, even had their open-decked boats been capable of it.

Bit by bit, she builds up a picture of the forger, resourceful and cunning but a bit at sea in the mathematical aspects of cartography. She seems to have had few doubts about his motives, which she takes to be financial. However, her forger does not seem to fit easily into some of the later theories about who might have made the map and why. But these are unproven too. Clearly some of Professor Taylor's contentions are more questionable than others and, had she lived, it would have been interesting to see how they stood up to argument. But on the simple question of authenticity, in principle she would only have needed to be incontestably right about one instance of forgery to have established her case. In the event her paper, finally published at about the same time as the more persuasive physical evidence of Dr McCrone, was largely overlooked. Whatever the truth, it stands as a tribute to her learning and perception and, towards the end of her life, persistence.

7. McCRONE CHALLENGED. The first scientific challenge to the McCrone analysis came in 1987 following an examination of the Vinland Map and the associated documents by the Crocker Nuclear Laboratory of the University of

https://doi.org/10.1017/S0373463300008754 Published online by Cambridge University Press

California at Davis (Cahill and Kusko, 1995). The Historical and Archaeological Projects team under T. A. Cahill, with representatives from Yale, then subjected the documents to a two-day study using a technique known as PIXE milliprobe that had not been available when McCrone's examination was carried out. The principal finding was that only trace elements of titanium dioxide could be detected, in the light of which, the claim by the McCrone Research Institute that the Vinland Map was a twentieth-century artefact had to be rejected, although the report emphasises that this did not necessarily imply the map's authenticity. The McCrone Institute's comment was to the effect that such was the gross difference between the procedures and instruments used in the two examinations that the two reports could not be directly related. PIXE techniques were effective for macro samples but not for particles. All at the McCrone Research Institute, the comment ended, rest easy with the conclusion that the Vinland Map is a forgery. And there, the argument over the scientific analysis of the ink still somewhat in the air, the matter to some extent rests.

Commenting on this unsatisfactory outcome in a joint letter to the publication *Mercator's World*, A. E. Werner and A. D. Baynes-Cope, pointed out that it was their examination of the map at the British Museum Research Laboratory in March 1967 which established that the appearance of the ink was so anomalous as to raise serious doubts about the map's authenticity. In its subsequent analysis, the McCrone Research Institute detected within the matrix of the ink line early twentieth century artefacts in the form of anatase titanium dioxide. These findings, the letter states, have not been disproved by any logically valid experiment or argument. It is a great pity, they added, that the Vinland Map had not been examined by independent scientists before its publication. The British Museum Research Laboratory, they point out, exists precisely to provide such impartial advice.

A final point on this aspect of the investigation into the map's authenticity was made by Kenneth Towe of the Department of Paleobiology at the Smithsonian Institution. The total disparity, he points out, between the microscopical descriptions made of the Vinland Map, and of the indubitably genuine accompanying documents, must somehow be explained in any argument that the map is a genuine fifteenth century document. Without such a description, the evidence collected by Cahill *et al.* on the two genuine associated documents can only support the conclusion that the Vinland Map itself is a painstakingly clever forgery.

8. YALE'S CRITICS. A new edition of *The Vinland Map and the Tartar Relation* with five new essays, all supportive of the authenticity of the map, was published by Yale University Press in 1995. In conjunction with the publication, a number of papers were presented at a conference organised by Wilcomb B. Washburn who had been responsible for the conference at the Smithsonian Institution in November 1966. It was evident on this occasion that those invited to take part were expected to be sympathetic to the map's authenticity. Dr McCrone, for example, was not invited (although he seems to have turned up off his own bat to distribute a paper). Barbara Shailor, the editor of the catalogue of the Beinecke collection of medieval documents at Yale (which owns the map) who is known to have palaeographical reservations about the map was neither mentioned in the book (except in a footnote) nor invited to contribute. One eminent (possibly the pre-eminent) authority in this country invited to attend had felt obliged to refuse unless Yale could include critics of the map among those asked to participate. The intention seems to

https://doi.org/10.1017/S0373463300008754 Published online by Cambridge University Press

have been simply to rehabilitate the Vinland Map, one can only imagine for the Press's own purposes.

Paul Saenger of the Newberry Library in Chicago, in what can only be termed a devastating review of the new edition for *Imago Mundi* (Saenger, 1998), the journal of historical cartography, talks of Yale's increasing isolation on the subject from the majority of academic opinion. The University, or at any rate its library, has failed in the critic's view ever since the map was first discovered to address the profound palaeographical and codicological problems that it poses. The map, Saenger recalls, had already been rejected by the Department of Manuscripts at the British Museum before it was offered to Yale. Yet to this day, the pre-eminent medieval paleographers have never been invited to express their views on it as a medieval document. By continuing to focus discussion on the decades-old issue of the ink, ignoring all the profound palaeographical, codicoligical, philological and historical contradictions, the new volume in Saenger's opinion, does a disservice to scholarship. And even on the narrow question of the ink, the evidence from the examination at the British Museum in 1967 that the ink of the map, unlike that of the associated documents, does not appear black under ultra-violet light has neither been denied nor explained.

In a letter dated 18 July 1975 to Professor Eila Campbell, Vietor, the map curator at Yale reports no success in tracking down any forger or the provenance for the map. The one thing that has emerged, he says, is that Witten bought the map in Switzerland, not in Spain as he had previously stated, and that he never visited the owner of the map, nor saw his or her library. He has now stated that he does not know the name of the previous owner, notwithstanding his remarks made at the Smithsonian conference. This, Vietor found all very disturbing and further supports the idea of a possible forgery.

In the course of his review, Saenger cites even more disturbing inconsistences in the accounts of the map's acquisition by Yale. At the first Vinland Map conference in 1966, Witten, for example, anxious to quash a suggestion that the 'miraculous reunion' of the map with the *Speculum* fragment might possibly have been engineered by booksellers, stated categorically that he had been the sole owner of the map, which he bought outright for $3500, a sum he described as 'too small for a conspiracy and too large for an accidental find'. There had, he said, been no payment of any kind to anyone else. Yet in 1974, he had pleaded being unable to refund the purchase price of $300,000 to the donor because of the amounts paid to the Internal Revenue Service, and to Rauch and Ferrajoli with whom he appears to have been in effective partnership over the map's re-sale (Witten, 1989).

Saenger also casts doubt on the story of the discovery of the *Speculum* fragment as told by both Witten and Marston. Marston, according to this version, had invited Witten to admire the two purchases he had acquired via Barry of Stonehill from an advance catalogue of Davis and Orioli. One was the *Speculum* fragment, the other a small thirteenth century codex in a Visconti binding which is now in the Beinecke Library. According to the catalogue, however, this codex that Witten had been invited to admire, had been acquired by Marston in 1958 not from Davis and Orioli as Witten had stated, but from Witten himself.

Finally, Witten, anxious to disassociate the acquisition of the Vinland Map from thefts from the cathedral at Zaragoza with which Ferrajoli had been charged, in his article in the 1995 edition of the book asserts that he knew of no Marston manuscript that came from the Zaragoza library. Saenger finds, on the other hand, that according

https://doi.org/10.1017/S0373463300008754 Published online by Cambridge University Press

to the catalogue, nine of the manuscripts Marston sold to Yale in 1962 originated from Zaragoza, five of them sold to Marston by Witten. Such matters are to some extent peripheral to the question of authenticity but in the absence of any history of the manuscripts they are bound to excite interest, if nothing more. Alas Marston, Witten, Ferrajoli, Vietor, Skelton and others who might have shed some light on the matter are no longer with us.

9. FAKE OR FORGERY? A few years ago, the late Helen Wallis, who succeeded Skelton as map superintendent at the British Museum, attempted to re-assess the status of the Vinland Map after the successive attempts to discredit and then to rehabilitate it. She entitled her paper 'The Vinland Map: Fake, Forgery or Jeu d'Esprit ?'. The weight of evidence as to its authenticity, in her view, still supported the verdict of fake or forgery, but she left open the verdict as to which it might be. In a series of articles published in *The Map Collector* (Seaver, 1995–7) over the last four or five years, the independent Scandinavian scholar and historian of the Norse discoveries, Kirsten Seaver who has made a prolonged study of the Vinland Map, is persuaded that its author was the learned Jesuit cartographic historian Father Joseph Fischer who died at the age of 86 in 1944 at Castle Wolfegg, where many years before he had discovered the Waldseemüller maps of 1507 and 1516. He would have faked the map, in Seaver's view, between 1933 and 1939 believing that the island of Vinland would have been Nova Scotia and Cape Breton combined and that cartographic knowledge of the Norse Discoveries in America had existed since 1427 when Claudius Clavus showed Greenland as a peninsula. Fischer would not have seen the faked map as a falsification of the historical record. His motives would have been, at any rate in part, to discredit the claims being expressed under the Third Reich of German kinship with Norse culture. Dr Seaver's work, whether the ultimate conclusion is accepted or not, must rank among the most important studies to have been made of the Vinland Map since its first appearance.

For all that, the Vinland Map remains something of a mystery. After nearly forty years, its authenticity has yet to be established to the satisfaction of most scholars and, even as a fake, its origins remain to be properly explained. Dr Seaver's comprehensive text might yet provide the background for a further attempt, on quite neutral ground, to resolve the differences once and for all, at any rate between those who hold the map to be genuine and those who don't.

APPENDIX. When they examined the Vinland Map at the British Museum Laboratory in 1967, Baynes-Cope and Werner established that the ink was different from ink to be expected on a medieval document. McCrone, Cahill '*et al.*' established how that ink differed from the normal. Why that ink should have differed from all others was the question raised by Mr Baynes-Cope in this short supplement that he presented as an appendix to the lecture.

> There is no indication at the present of the immediate situation in which the Vinland Map would have been created if it were genuine, but it is not unreasonable to presume that it should have been made in a regular scriptorium, and one under the control of a master. There could be no more unlikely place for the creation of the ink we see today on the Vinland Map. It is extremely difficult to imagine the circumstances in which a medieval scribe in a scriptorium would neither have, nor be able to obtain nor be able to make, iron-gall ink. It is difficult to imagine a scribe not being able to concoct an ink from carbon-black and a

https://doi.org/10.1017/S0373463300008754 Published online by Cambridge University Press

mucilage, for it is known that carbon-black was added to iron-gall ink in medieval times (the Hereford Mappa Mundi is an example, and carbon-black in ink is referred to in the Talmud). If the Vinland Map is genuine and medieval and contemporary with either or both the *Tartar Relation* and the *Speculum Historiale* copy, it passes belief that a scribe, who must have known that a clear, contrasting ink-line would be needed, would concoct an ink that imitates faded iron-gall ink and so much lacks contrast that the writing is barely legible. There is the further unlikelihood that the scribe would incorporate in the ink substances for which there is a strong possibility that they originated in an industrial process which was manifestly useless to him. It is not going too far to say that every salient feature of the ink of the Vinland Map is anomalous and, if the ink purports to be medieval, spurious.

REFERENCES

Skelton, R. A., Marston, T. E. and Painter, G. D. (1965). *The Vinland Map and the Tartar Relation*. Yale University Press.

Taylor, E. G. R. (1974). The Vinland Map. This *Journal*, **27**, 195–205.

Richey, M. W. (1966). The Vinland Map. This *Journal*, **19**, 124–5.

Skelton, R. A. (1966). The Vinland Map. This *Journal*, **19**, 271–4.

Wallis, H. and others. (1974). The strange case of the Vinland Map. *Geo. Journal*, **140**, 186–214.

Cahill, T. A. and Kusko, B. H. (1995). Compositional and structural studies of the Vinland Map and Tartar Relation . *The Vinland Map and the Tartar Relation* , 2nd edn.

Saenger, P. (1998) Vinland Re-read. *Imago Mundo*, **50**, 199–202.

Witten, L. C. (1989). Vinland's saga recalled, xlv. Reprinted in *The Vinland Map and the Tartar Relation*, 1995 edn.

Seaver, K. A. (1995–7). Three articles on the Vinland Map. *The Map Collector*, **70**, 32–40; **74**, 24–29; **78**, 42–47.

https://doi.org/10.1017/S0373463300008754 Published online by Cambridge University Press