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Reading Allan Marquand's "On Scientific Method in the Study of Art"

C. Oliver O'Donnell

AUTHOR'S NOTE

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1 Allan Marquand's "On Scientific Method in the Study of Art" was presented to the Princeton Philosophical Club on 20 January 1889.[1] The essay in its entirety was never published, making the transcription of it that follows this introduction an especially interesting historical document for a number of reasons.[2] First of all, in 1889 the discipline of art history in America was still very much in its nascent stages; Marquand had been appointed to his professorship – the second of its kind in the entire country – only six years earlier in 1883.[3] Thus, it is not an exaggeration to say that the ideas presented in Marquand's essay were part of the very origin of the discipline of art history in the United States. Despite what Marquand's ideas helped set in motion, however, and despite what his professional identity would soon be, Marquand had not trained to be an art historian. Rather, as a student he had largely studied philosophy, both as an undergraduate under James McCosh – often described as the last great representative of the Scottish Common Sense tradition – and subsequently during his PhD under none other than Charles Sanders Peirce.[4] What makes Marquand's "On Scientific Method in the Study of Art" so interesting and appropriate to discuss and publish in this special issue of *The European Journal of Pragmatism and American Philosophy* is that it quite clearly lays bare Peirce's influence on Marquand's thinking and thus reveals the presence of Pragmatist

ideas at a crucial early point in the development of art historical scholarship in the United States.

2 In what follows, I closely read Marquand's arguments in "On Scientific Method in the Study of Art" both in relation to their sources as well as in relation to Marquand's own subsequent scholarship. To do so, I organize my thoughts around the structure of Marquand's, examining the relationships between Marquand and his mentors, contemporaries, and nemeses as they emerge in the course of his essay. My thesis is that while Peirce's writing is the most conspicuous and important inspiration for the essay, Marquand's handwritten corrections to the text also reveal a struggle with Peirce's ideas that can – especially in light of Marquand's later writing – be read to expose an ambivalent or potentially even critical attitude toward central aspects of Peirce's thought. Thus while it is important to understand "On Scientific Method in the Study of Art" specifically in relation to Peirce, it is also essential to broaden our framework and to place Marquand's claims in the essay in relation to both preceding and subsequent art historical scholarship.[5] Doing so helps flesh out which aspects of Marquand's essay are clearly indebted to Peirce, which aspects have deeper and more complex historical roots, and perhaps most importantly, how we might understand "On Scientific Method in the Study of Art" as foundational for the discipline that partially followed from it.

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3 Marquand hand-scrawled the surviving manuscript of "On Scientific Method in the Study of Art" over fifty-five small, loose pages, each no bigger than an A5 sheet of paper. Many of the pages have extensive corrections and some even have pasted-on additions. All in all, the original manuscript reveals the signs of having been edited repeatedly and thoroughly, and considering it remained unpublished during his lifetime, it is safe to say that Marquand was never completely satisfied with its claims or conclusions. Yet, as noted at the outset, Marquand did present the essay to the Princeton Philosophical Club and did publish an abstract of the essay in the *Princeton College Bulletin*. Passages from the essay also appeared in another text that Marquand published several years later, titled "The History of Art as a University Study," which was written more for the general audience of the university community than for academic specialists.[6] Thus, even though Marquand never published "On Scientific Method in the Study of Art," it is certain that the ideas presented in the essay played a key role in how Marquand both envisioned and established art history at Princeton.

4 As the essay's title suggests, "On Scientific Method in the Study of Art" is very much a part of the positivistic thinking that by 1889 had long been taking hold within all forms of scholarship – art history being no exception. Much in keeping with the research of Leopold Ranke in history and Auguste Comte in sociology, starting in the 1820s, Karl Friedrich von Rumohr and his followers in Berlin developed an approach to art history that was marked by careful archival research and scrupulous attention to the material dimensions of individual art objects.[7] Similarly to Rumohr's writing, in his essay Marquand advocates an empirical approach, one that, it should be said, also very much mirrors a broader trend in American historical scholarship of the time.[8] In Marquand's subsequent writing he put this general method into practice by, on the one hand, publishing transcriptions of previously unknown archival documents and by, on the other, focusing his practice of attribution on the detailed material qualities of artworks.

Just as Rumohr had addressed the question of Giotto's oeuvre by focusing on the wax binding agent that he thought was particular to Giotto's mode of painting, so too did Marquand write about the glazes used by the Della Robbia, pointing to the particular qualities of those glazes – gritty versus runny, evenly or unevenly applied, marked by certain color combinations, etc. – as a grounds for assigning authorship to specific works.[9] While Marquand was not nearly as incredulous about existing attributions as was Rumohr – who was so critical of the attributions of paintings to Giotto in the 1820s that he whittled them down to a single indubitable object – he is likely best and most broadly positioned as a connoisseur of his ilk.[10] In this respect it is fitting that Marquand not only maintained a correspondence throughout his professional life with Wilhelm von Bode, the most prominent inheritor of the Berlin-based school of thought that Rumohr helped establish, but also dedicated his first book on the Della Robbia to Bode as "The Pioneer of Robbia Studies."[11]

5 In relation to his mentorship under Peirce, that Marquand practiced such a positivistic approach is certainly apt; Peirce himself had advocated and developed a strictly "scientific" method of inquiry, and the Pragmatism that he introduced and championed has often been positioned within the larger history of positivism.[12] Considering this commonality, the specific Peircean bent of Marquand's thinking is important to clarify, and, in this regard, the general structure of Marquand's essay is key. Marquand begins "On Scientific Method in the Study of Art" by describing three alternatives to his preferred method, namely what he calls the mystical, the metaphysical, and the literary. This general structure is deeply reminiscent of Peirce's well-known claims in "The Fixation of Belief" of 1877.[13] Therein Peirce also lays out three alternative and flawed modes of belief in order to differentiate his scientific approach: what he dubs beliefs based on tenacity, on authority, and on *a priori* principles. While the terminology of Marquand's essay does not perfectly mirror Peirce's, considering that Marquand was studying under Peirce at Johns Hopkins when "The Fixation of Belief" had been recently published, it is safe to assume that he knew about the essay and only warranted to take Peirce's essay as an important model upon which "On Scientific Method in the Study of Art" was based.[14] As we will see, a close reading of Marquand's text continues to substantiate this interpretation.

6 By the mystical approach to art Marquand means the belief that the key to or essence of visual art is somehow beyond sensuous apprehension, that art requires some special abilities or faculties to understand. Marquand associates this mode of understanding with a naïve public and with a "priest-craft" that doles out judgments seemingly based on authority alone.[15] In "The Fixation of Belief" Peirce too used the examples of theology and religion as examples against which he distinguished his approach, and, like Marquand, uses the example of a "priesthood" to do so.[16] Though specific historical writers who fit this method are lacking in Marquand's essay, the mystical method is more than just an empty straw man for Marquand to tear down. The Princeton Department had quite literally been founded against the idea that "the word Art implies a mystery, which can be penetrated by only a few intellects,"[17] or so that is what two of its earliest advocates stated in one of their most public attempts to establish the professorship that Marquand was to occupy. Moreover, as Marquand is sure to point out in his essay, part of why he is so inimical to the so-called mystical method is because it stands opposed to "anything like consensus of thinking minds."[18] With this last phrase Marquand further displays his education both under Peirce and within the tradition of Common Sense philosophy more

generally. As is well known, both Peirce and the Scottish Common Sense philosophers defended the central role of consensus in the construction of knowledge, a position that is often connected to the New England tradition of town-hall meetings and that has continued to cause much debate among later Pragmatist thinkers.[19] While we cannot be certain where Marquand would have positioned himself within these subsequent debates, his appeal to a "consensus of thinking minds" is nonetheless important in understanding how he adapted his philosophical training to art historical purposes.

7 Marquand next distinguishes this mystical approach to art from what he terms the metaphysical method, a distinction that roughly parallels Peirce's distinction between beliefs based on authority and those based on the *a priori*. "On Scientific Method in the Study of Art" understandably associates the metaphysical approach most heavily with the work of Hegel, but Marquand does also gesture toward forms of idealism more generally. On Marquand's view, the chief strength of Hegel's metaphysical method is also its main weakness: it functions through analytic distinctions and definitions, for instance it defines works of art in relation to beauty and then defines beauty itself in relation to further terms. Marquand points out that Hegel's metaphysics is an improvement over the so-called mystical method in that it subjects itself to the public test of reason and thereby aims to "make our ideas clear," a turn of phrase that Peirce used to title one of his best-known essays from the period and one whose reappearance within Marquand's text is hard to see as coincidental.[20] Despite this noble goal, however, the price paid for the metaphysical approach is that Hegel's system focuses more on theoretical definitions and their interrelation than on what Marquand claims to be the actual object of art historical study: "material things."[21] Here Marquand's insistence that the study of art be first and foremost empirical and realist parallels one of the most lasting legacies of 19th-century "science," both the naïve and sophisticated.

8 Whether or not Marquand's own empiricism was as innovative and as complex as Peirce's is an open question. Marquand's previous research in philosophy does assure that he was well aware of the long-standing questions over the liabilities surrounding empirical inferences. Indeed, what seems to be the published introduction to his now-lost dissertation is a sophisticated discussion of the ancient debates between the Skeptics, Stoics, and Epicureans about the limits and powers of induction.[22] Combined with his training under Peirce and McCosh, it is certain that Marquand was not philosophically naïve. Moreover, if we ourselves approach Della Robbia sculpture through the lens of Marquand's period and remember the importance of statistics both for the Darwinian revolution and for Peirce himself, the artistic production of the Della Robbia becomes a fitting problem to tackle. Having been created by generations of artists and being made up of over a thousand objects, Robbia ware presents itself as ripe for statistical reasoning.[23] Though Marquand did not explicitly publish statistical tabulations of visual characteristics in his study of the Della Robbia, that he did so in other publications shows that he was certainly capable of this type of work and suggests that some implicit form of probabilistic reasoning could even be behind his attributions.[24]

9 Much in keeping with these interdisciplinary currents, Marquand's practice of connoisseurship was also heavily based on applying the morphological techniques of the natural sciences to the task of delimiting the oeuvres of individual artists, a practice that is criticized as often as it is praised by art historians today.[25] Like his more famous contemporary Giovanni Morelli, Marquand often gauged the authorship of individual art objects by how well the specific features of one of their representational details matched

the typological features of that same representational detail in an artist's larger oeuvre.[26] Whereas Morelli practiced this method by comparing the depicted ears and hands in paintings attributed to Renaissance masters like Botticelli, Marquand often did so by comparing the eyes found across sculptures attributed to the Della Robbia.[27] As critics of this approach are prone to point out, in its heavy focus on mere observables, Morellian connoisseurship inches dangerously close to the hyperbolic reduction of scientific hypotheses to observation alone. The problems with such an approach for historical scholarship are, of course, well known, if not obvious. For one, historical research seeks to understand something that is by definition beyond observation – the past – and thus the notion that historical hypotheses must be verified through observation alone is clearly overstated. Because Peirce himself made similar criticisms of Comte's positivist method and Marquand did not solely base his attributions on the visual qualities of art objects, one can justifiably believe that Marquand was similarly savvy as to the limits of observation.[28] Moreover, unlike Morelli, Marquand was not prone to categorical assertion and openly acknowledged that his connoisseurial claims were only probable, never certain.[29]

10 The third and final critique that Marquand puts forward in what amounts to his initial negative definition of his own approach is of what he calls the literary method, a distinction that Peirce himself also used.[30] Figures as diverse as Giorgio Vasari and Hippolyte Taine serve as Marquand's representatives of this school of thought, whose method he associates with a focus on expression. On Marquand's view, even though there are many parallels between visual art and literature, much like the metaphysical approach, the literary method does not place enough emphasis on "the observation of things."[31] The specificity of visual art, in other words, is largely lost when it is approached as if it were a work of literature, and if the study of visual art is to reach its maximum potential, it should rely on methods that allow its practitioners to analyze and understand art objects on their own terms. The validity of this final critique is perhaps less historically interesting than its likely intended object of ridicule: the only other competing model of art historical education and research in the United States at the time. In 1874, Charles Eliot Norton was appointed Professor of Fine Arts as Connected with Literature at Harvard and, by 1889, had already done much to establish art history in the US.[32] Considering Norton's title, the fact that he was a scholar of Dante, and that Marquand explicitly mentions Norton's mentor, John Ruskin, by name, the direction of Marquand's third and final critique would have been hard for readers of the time to miss. Norton's classes were popular at Harvard and his fame was so intense during his lifetime that his friend and fellow Harvard professor William James believed that Norton – rather than himself – would be remembered as one of the greatest voices of his generation.[33] While James's judgment has not stood the test of time and Norton has sunk into historical obscurity, Norton's popularity and fame would have certainly made him an evident and important alternative for Marquand to distinguish himself against. Moreover, considering Norton's own critical attitude toward James's Pragmatism and Marquand's proximity to that approach thanks to his education under Peirce, it seems only fitting that Marquand would have contrasted his form of art history to that of Norton.[34]

11 In the face of these various "non-scientific" methods, Marquand defines his approach positively by first offering a broad and rough definition of visual art, an effort that speaks at once to the nascent state of the discipline as well as to his philosophical education in general. Marquand limits his study of "art" to those objects that are designed by man to

"appeal to us through impressions made upon the eye" and to objects that "arouse the higher forms of consciousness: memory, understanding, imagination, emotion, will."[35] Here we can see that even though Marquand's "scientific" approach is heavily empirical and deeply critical of philosophical idealism, he recognizes that any study of art that ignores the broad range of human mental activity that art objects often stimulate will be incomplete. Perhaps more surprisingly, despite Marquand's firm empirical commitments, at scattered points in the essay Marquand's claims even edge toward some of Peirce's grand metaphysical speculations: for instance when Marquand introduces the very notion of art in relation to pure chaos as well as when he speaks of alternate universes of color "of which we have never dreamed."[36] In his later art historical scholarship, however, Marquand does not pursue these ideas and does not discuss in any developed way the "higher forms of consciousness" or alternative universes that he appeals to here. Indeed, taken together, Marquand's subsequent publications amount to a multivolume catalogue raisonné of the Della Robbia workshop, an impressive accomplishment in terms of its encyclopedic aims and reach but one that does not even gesture toward the grand schemes mentioned in this early essay.

12 In this respect it should be pointed out that however indebted "On Scientific Method in the Study of Art" is to Peirce, it is hard to see Marquand's mature writing as fully Peircean. For one, Marquand's lack of subsequent theorizing lends credence to the characterization of him by one of his friends and colleagues as having a "profoundly anti-metaphysical nature," a characterization that Marquand himself seems to have at least indirectly courted.[37] Not only does Marquand explicitly oppose his method to metaphysics in this early essay, but the very reason why he ended up teaching art's empirical history at Princeton was because he refused – or perhaps more accurately adapted to his interests – James McCosh's initial suggestion to teach the philosophy of art.[38] Much in keeping with such preferences, when faced with philosophical questions from his old mentor not long after making his disciplinary transition, Marquand resisted taking up such issues and described himself as "an outsider in philosophical matters."[39] Under such descriptions, Marquand's scholarship is surely closer to that of high positivists, for whom the words "philosophy" and "metaphysics" are often opposed to "science," rather than to that of Peirce, for whom such an opposition was specious at best. Indeed, Peirce himself once said: "Find a scientific man who proposes to get along without any metaphysics [...] and you have found one whose doctrines are thoroughly vitiated by the crude and uncriticized metaphysics with which they are packed."[40]

13 Further into "On Scientific Method in the Study of Art" we see just how radically committed Marquand was to applying rigorously "scientific" methods to his object of analysis, to describing art, as Peirce might have said, "independent of the vagaries of me and you."[41] In analyzing works of art in terms of their color, he turns immediately to mathematics, specifically to the binomial equation, and deduces from it that there are an infinite number of complementary colors.[42] Perhaps what is most interesting about Marquand's claim is not whether or not it is correct – many questions about color still persist today – but rather how it further suggests that his training in Peircean logic exerted a strong hold upon him.[43] Marquand's algebraic argument is, after all, much more akin to his earlier work with Peirce on a logical machine than to average art historical research of the time.[44] Though Marquand's mathematical tack here is neither without precedent nor without affinity to later scholarship, a similar appeal would likely come across as more baffling than intriguing to art historians today. This fact may be

lamentable; however, it testifies at once to the distance between Marquand's approach and contemporary scholarship as well as to the divide between the *Natur-* and *Geisteswissenschaften* that has become especially evident in the scholarship of more recent generations.[45]

14 Much in keeping with Marquand's strong "scientific" commitments, it comes as no surprise that Marquand also believed that the Darwinian model of evolution – what Peirce called the application of statistics to biology – would be equally applicable to the study of visual art.[46] Though today we are justified in criticizing Marquand's championing of a Darwinian model as overly optimistic, it is important to recognize that Marquand's praise occurred for a reason. When Marquand penned this essay in the late 1880s, a revolutionary chronological technique was being developed by the British archaeologist William Matthew Flinders Petrie that owed much to Darwinian thinking. Known as sequence analysis, in this technique Flinders Petrie arranged pottery sherds from various archaeological sites into series based on their formal features. He then inferred from these sequences of objects relative, rather than absolute, chronologies and correlated those chronologies with the various stratigraphic layers in which those objects were discovered.[47] Given the lack of alternative evidence available at the time, Flinders Petrie's technique was especially powerful. And while it was neither exact nor infallible, subsequent studies that have relied on more modern techniques – like radiocarbon dating – have confirmed its usefulness.[48] When placed in this historical context, we can well understand Marquand's strong commitment to the formal analysis of art objects.

15 Interestingly, however, and not unimportant, the revisions in the handwritten draft of "On Scientific Method in the Study of Art" reveal that Marquand conceptualized his overstated appeal to Darwin specifically in relation to some of Peirce's claims. In considering which method would be best for studying visual art "scientifically," Marquand refers to Peirce's distinctive tripartite scheme of "deduction, induction, and hypothesis."[49] Rather than develop this line of reasoning further, however, Marquand subsequently crossed this explicit reference to Peirce out of his essay. The reasons for Marquand's change of heart are likely lost to history; however, Peirce's notion of "hypothesis" was a distinctive one. In fact, Peirce later tried to capture the particularity of his term "hypothesis" by renaming it "abduction," by which he meant "the process of forming explanatory hypotheses," "all the operations by which theories and conceptions are engendered."[50] Peirce was even confident enough in his theory of abduction that he dubbed it the experimental mode of inference that lay behind his philosophy in general – his Pragmatism.[51] While the validity of such a claim is disputable and Peirce's notion of abduction is controversial, the continued interest in his writing, not to mention the growth of neo-Pragmatist thinking across disciplines today, makes Marquand's passing and excised reference to Peirce's term for theoretical invention especially intriguing. Combined with the early place of "On Scientific Method in the Study of Art" within the history of art history, we might wonder what art historiography would look like today if Marquand had embraced Peirce's conceptualization of the role of theory in science – let alone Peirce's vast metaphysics in general.

16 In closing, such speculation is especially fitting because most art historians today would likely – at least at first glance – understand Peirce's and Marquand's writing as deeply antithetical. Though much of this essay has been dedicated to showing why such a judgment is flawed, the fact is that the recent art historical rediscovery of Peirce's scholarship was motivated not by the confidence in inductive inference found in

Marquand's catalogues but rather by a skepticism and doubt concerning the discipline's possession of a sufficiently robust grasp of its own philosophical foundations. Indeed, art historians today most often associate Peirce's name with the discipline's semiotic turn in the 1980s and '90s, a turn that largely interpreted Peirce's writing as an ally of deconstructive ends.[52] Thus it would seem that if Marquand had more fully embraced Peirce's project and developed his connoisseurship on a more explicitly theoretical basis, the "crisis of the discipline" that Henri Zerner and Hans Belting announced in the 1980s would likely have confronted vastly different art historical precedents.[53] Moreover, now that we stand on the other side of that crisis and have the privilege of hindsight, it seems clear that the largely negative thrust of art history's deconstructive moment was only partially sufficient. Clearly what is still needed is a working out in a positive manner of new art historical principles upon which the fundamental practices of the discipline – practices like Marquand's connoisseurship – can be based. That art historians continue to struggle with such a task is itself a testament to the valuable work that Marquand himself might have done if he had further developed the Peircean dimension of his early thought, if "On Scientific Method in the Study of Art" had not remained an unpublished, handwritten essay but rather had become a true monograph on the "scientific method" behind Marquand's – and thus our – history of art.[54]

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NOTES

1. The original manuscript is housed in the Allan Marquand Papers, Box 10, Folder 22, Firestone Library, Princeton University. For a published abstract of the paper, see Marquand (1889: 56-7).
2. Allan Marquand (2016: 290-8).
3. For a more thorough contextual discussion of Marquand's appointment, see Marilyn Lavin 1983. For an additional contextualization of Marquand's appointment, see Betsy Rosasco 1996.
4. On McCosh, see Hoeveler 1981. On Marquand's work with Peirce, see Nathan Houser (1989: xix-lxx); Max Fisch (1986; esp. 230-1).
5. For a helpful overview of these developments, see Kleinbauer 1971. For perhaps the best-known discussion of the place of American scholarship within longer-term disciplinary developments, see Panofsky 1953.
6. Marquand 1892.
7. Rumohr's most extensive statement of his views is found in his *Italienische Forschungen* (1827-31). For a contextual discussion of Rumohr's work, see Enrica Yvonne Dilk 2000. For a brief but recent introductory overview of the emergence of "scientific" approaches to art history in the German tradition see, Matthew Rampley (2013; esp. 18-21).
8. For an extensive discussion of this development, see Peter Novack 1988.
9. For an example of Marquand's use of differences in the material qualities glazes as a ground for attribution, see Marquand 1912.
10. Rumohr's discussion of Giotto is found in his *Italienische Forschungen*. For a translation of this chapter, see Rumohr 1988.
11. Marquand 1912. The extant letters from Marquand to Bode begin in 1883 and end in 1921. They are housed in the Nachlass Wilhelm von Bode in the Zentralarchiv of the Staatliche Museen zu Berlin. Bode's letters to Marquand are housed in the Allan Marquand Papers, Princeton

University Library, (Box 11, Folder 46). For a discussion of Rumohr's so-called "Berlin School," see Gabriele Bickendorf (2007: 46-61). For a discussion of Bode in particular, see Tilmann von Stockhausen (2007: 141-51).

12. For instance, Leszek Kolakowski 1968.

13. Charles Sanders Peirce (1992 [1877]: 109-23).

14. Marquand earned his PhD from Johns Hopkins in 1880 and he took multiple courses with Peirce while there, including his general course in logic, his course in medieval logic, and two courses in advanced logic. Marquand also gave papers at the Metaphysical Club that Peirce founded at Hopkins in 1879. See, Ahti-Veikko Pietarinen & Jean-Marie Chevalier 2014.

15. Marquand (2016: 290).

16. Peirce (1992 [1877]: 117).

17. William C. Prime & George B. McClellan (1882: 15-6).

18. Marquand (2016: 290).

19. For an example of a scholar who connects the consensus theory of truth to New England town meetings, see Richard Posner 2003. For debates among current Pragmatist philosophers about the consensus theory of truth, see, for instance, Cheryl Misak's criticisms of Richard Rorty in her, *Truth, Politics, Morality: Pragmatism and Deliberation* (1999).

20. Marquand (2016: 292). Charles Sanders Peirce (1992 [1878]: 124-41).

21. Marquand (2016: 292).

22. Marquand 1883a.

23. For an example of the large number of objects that were attributed to the della Robbia workshop during Marquand's lifetime, see Maud Cruttwell 1902.

24. For an example of Marquand's use of statistics to analyze the style of visual art objects, see Marquand (1894: 521-32).

25. For a critical take on this approach, see Karen Lang (2006; esp. 179-98). For a more affirmative take, see Richard Wollheim 1974.

26. On Morrelli in general, see Carol Gibson-Wood 1988. On Morelli's relation to inductive reasoning see, Carlo Ginzburg 1980. On this point it should be noted that Morelli's method owed much to the morphological techniques of Louis Agassiz, whose work was also greatly admired by Peirce. For Morelli's debt to Agassiz, see Margaret Olin 2012; Richard Pau 1993.

27. For a discussion of Marquand's approach and lasting contribution to Della Robbia scholarship see, Marietta Cambareri (2014: 13-21). I would like to thank Rachel Boyd for this reference.

28. For Peirce's criticisms of Comte's positivism see, Peirce 1904.

29. For Marquand's acknowledgement of his fallibilism, see Marquand (1922: vii). Marquand also strongly criticized Josef Strygowski for having too much confidence in his categorical claims about the Middle Eastern origins of early Christian art. See Marquand 1910.

30. A clear instance of this is found in Peirce's essay "What Pragmatism is," *Collected Papers of Charles Sanders Peirce*, 5.414. I would like to take this opportunity to thank Tullio Viola for this reference especially and for other references found in this essay as well.

31. Marquand (2016: 293).

32. For the most comprehensive account of Norton's appointment and life, see James Turner 1999. Despite their differences, like Marquand, Norton owed much to Scottish Common Sense philosophy. For this connection see, Linda Dowling 2007. On this point it should also be noted that, like Marquand, Norton himself published transcriptions of unpublished primary sources in his books. See Norton 1880.

33. For James's comment about Norton, see William James to Alice James, 23 August 1891, in James (1961: 137). James Turner notes in his biography of Norton that at the height of his fame, close to a third of the Harvard undergraduate student body – some 451 students – attended his course "Fine Arts 3." See Turner (1999: 375).

34. Norton (1913: 412).

35. Marquand (2016: 294).
36. Marquand (2016: 298). For instance, one might compare Marquand's ideas here to those of Peirce as expressed in his "A Guess at the Riddle," *The Essential Peirce*, vol. 1, 245-79.
37. Quoted in Rosasco (1996: n.164, 49).
38. Marquand's decision to teach art history is recounted in both Lavin's 1983 and Rosasco 1996.
39. Quoted in Ketner (1984: 208).
40. *Collected Papers of Charles Sanders Peirce*, ed. Hartshorne, Weiss, and Burks, Cambridge, MA: Harvard University Press, 1931-58, 1: 129.
41. Peirce (1992: 52).
42. Marquand (2016: 298).
43. For a lucid discussion of various problems with our understanding of color that persist today see, Alva Noë (2004: 123-61). For a representative art historical approach to color, see John Gage 1999.
44. For Marquand's work with Peirce on a logical machine, see Marquand 1883b. It should be noted here that this machine not only worked but has even been taken as an important object in the development of computers.
45. Perhaps the most well-known statement about this divide is by Snow 1959. This divide was very much being articulated within Marquand's milieu, especially by writers like Wilhelm Dilthey and Wilhelm Windelband. Though it is unknown exactly how Marquand thought about this divide, it seems reasonable to assume that he would have downplayed it and advocated for a more unified view of "scientific" research across the humanities, social, and physical sciences.
46. Peirce (1992 [1877]: 111).
47. On the origins of Flinders Petrie's sequence dating techniques, see Dower 1985. For Marquand's interest and excitement about Petrie's work in general, see Marquand (1891: 12-4). Marquand was one of the founding editors of the *American Journal of Archaeology* and was thus likely familiar with Flinders Petrie's techniques from quite early on.
48. For example, see Richard MacNeish's relative chronologies of pottery (MacNeish 1970).
49. Marquand (2016: 295).
50. Charles Sanders Peirce, *Collected Papers of Charles Sanders Peirce*, vol. 5: 172, 590.
51. For a discussion of Peirce's theory of abduction and how it relates to his Pragmatism, see Burks 1946. For a more extensive treatment of Peirce's notion of abduction, see Fann 1970.
52. A good example of such an interpretation is Mieke Bal and Norman Bryson (1991: 174-208). For a consideration of art history's incomplete engagement with Peirce see, James Elkins (2003: 5-22).
53. Henri Zerner (1982: 279); Hans Belting 1983.
54. Art historians have long dedicated themselves to this type of positive theory building, though perhaps because of early models like Marquand, it has taken English-language art history an especially long time to catch up. In this regard, two relatively recent books are especially noteworthy, Summers 2003; Davis 2011.

ABSTRACTS

In this introduction I closely read Marquand's arguments in "On Scientific Method in the Study of Art" both in relation to their sources and in relation to Marquand's own subsequent scholarship.

My thesis is that Charles Sanders Peirce's writing is the most conspicuous and important inspiration for the essay; however I also contend that Marquand's handwritten corrections to the surviving manuscript of the text reveal a struggle with Peirce's ideas that can – especially in light of Marquand's later writing – be read to expose an ambivalent or potentially even critical attitude toward central aspects of Peirce's thought. I conclude by noting that Marquand's intellectual relationship with Peirce speaks to both the past, present, and future of art historical scholarship.

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