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Scotland and the Geometric Imagination

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SCOTLAND AND THE GEOMETRIC IMAGINATION

Matthew Wickman. *Literature After Euclid: The Geometric Imagination in the Long Scottish Enlightenment*. Philadelphia, PA: University of Pennsylvania Press, 2016. Pp. viii + 293. Hardback, $69.95, £45.50. ISBN 978-0-8122-4795-4.

Matthew Wickman's expansive, eloquently written, and ingeniously well-crafted book comes at an auspicious time given what he rightly calls "the mathematical turn in literary studies" (1). In a very direct way, the Enlightenment problem of "the exponential increase in information" (1) foreshadowed our present-day problems about what to do when literary and other forms of knowledge are no longer tethered, as they were in the eighteenth century, to the medium of print. As Wickman points out at the start of his book, data in the more capacious numerical form we call digital is as much a turn back toward one revolution in the history of media as a move forward toward a newer one. This time, the computational enigma is intensified, but it is resolved now, as before, in geometrical form. The Scottish Enlightenment haunts the production of knowledge in general today, and this looping between then and now is itself fixed within a common late-Euclidian enigma.

I use that word *haunt* in a way that is consistent with Wickman's general argument. One of the risks of scale that we confront in affirming a "mathematical medium for theoretical and poetic thought" (12) is that we confront what we cannot see only through certain practices of rendering the invisible empirically measurable, and therefore, something both imagined and real. For Wickman's practitioners, these are *literally* figurative, visual or map-making modalities of thought. The promise here, thinking of the physicist David Deustch's notion of infinity, is like knowing that the universe is inconceivably large but that you can still conceive greater and greater knowledge of it over time.[1] Even shadow photons are measurable given proper tools. You can know more things about reality, and then act better from there.

Wickman manages to give new significance to a sweepingly vast archive, putting into practice the same figural exercises of rendering large scales of information into new orders of understanding that many of his key

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[1] See, e.g., David Deutsch, *The Beginning of Infinity: Explanations that Transform the World* (London: Penguin, 2011).

writers, counters, geometers, and experimenters work through within their own genres, disciplines, and forms. The book runs smartly through a gamut of (mostly) English and Scottish mathematicians (such as Maclaurin, Stewart, Simson), philosophers and moral philosophers (Reid, Smith, Hume, Kant), novelists, poets, and critics (Scott, Burns, Thomson, Kames). These thinkers are—without messing up the mapping—put in conversation with a careful selection of influential voices in contemporary theory (Badiou, Lyotard, Meillassoux).

Wickman is not arguing that all of his literary and philosophical examples had direct knowledge of Euclid, or more to the historical point, that they all struggled explicitly with the challenges of Newton's fluxional calculus. It must be noted though, given the centrality of "geometrical reasoning" in Scottish—but *not* English—universities, that a great many key Enlightenment thinkers did know Euclid's work directly (8). We learn from Wickman how to think about the dynamics of disciplines in the same way he gets us to think about how literary canons are made, how they are un- and re-made (a profound effect of the digital humanities), and how form and number square off and change.

Geometrical reason applies to how the boundaries of genres get drawn while still riddled with traces of alternative forms (as seen in the false division between gothic and realism). It applies also to how historical periods begin and end, and yet how they go on existing in occulted ways (why not include Baudelaire, Valery, and Poe with Thomson and company?). There is a Euclidian dimension to how labor power is made invisible (note here Wickman's deft critique of Smith, apropos Burns, on sympathy); and to how Scottish nationalisms manage to be both highly particular and universal (the Act of Union's incapacity to create a *United* Kingdom). These issues are featured, throughout "the long *looping* eighteenth century" (5, my emphasis)

In all of these instances, Wickman reveals a consistency of practice regarding how Enlightenment thinkers crafted relationships as new points of reference emerged: There *was*, and—as we reread these thinkers as surprisingly compatible with our own historical moment—there *is* more than meets the eye. The general point of linking the geometrical sciences with the literary imagination across increasingly larger orientations of space and time is to allow us to deal usefully with the *more*. We *can*, and early modern geometrical reasoners *did*, render the "strange" into "knowledge," and from there move knowledge ahead toward "new ends" (5). This is especially significant when we realize that what we are reasoning about is the nature of reason itself, which is an intrinsic part of the reality it tries to explain.

But like the "doubleness of perspective" in Joanna Baillie's late-eighteenth century plays—she was fascinated by Plato's definition of geometry—those explanations "take contingent forms in everyday life" as

"conflicting dramatic imperatives" (4). This is why aesthetics never fully diverges far from epistemological concerns, nor these concerns from social and political ones. "Connections," and here Wickman is referring to Scottishness both as a period in time and as a national category, "leave off [where others] begin," and "often wind round themselves, fashioning strange and sometimes contorted designs from the original flow of time" (6). What motors the "reconfigurations of form and history [is a] mathematical unconscious" (4). Numbers *both* "undercut the presumption of progress" (6, my emphasis), *and* in the geometrically inspired form of Wickman's own book, create the kind of knowledge we can measure as new. Our "journey into mathematical darkness" (17) is the more remarkable for our eventual arrival at light.

The organization and specific examples used by Wickman are as forceful as his argument overall. The book is divided into three parts: Part I provides a theoretical overview of the importance of shape and time along the lines I have followed above. Chapter 1, for example, elaborates the key concept of Newtonian fluxions. These "distortional mirrors held to nature" (37) work in contrast with Descartes's grids and Leibniz's algebra, as "the contemplation of figures" (50), and as "a new way of configuring the passage of time" (37) in the form of seeing shapes and arranging them in useful ways. Wickman mentions Professor Simson's translation of Euclid's *Elements* in 1756 as contributing to a wave of spatial experimentation in motion since Newton, most notably, in Reid's "Common Sense" school of philosophy.

Reid is not discussed at length until chapters 5 and 6. But in Chapter 1, and in Wickman's introduction, the Common Sense school is singled out as "a dynamic thought experiment" (7). While not adhering to Euclidian concepts of space, the example of Reid shows especially well how geometry was "a poetic or creative language" (46). Leaving Reid to the side, Wickman moves in Chapter 2 through a "backward chronology" (16) to Scott's shaping practices, specifically, in *Guy Mannering*. Here, on the order of Newton's fluxional understanding of "the flow of time," we may see a "mathematical anticipation of historical fiction" (59): the "image of the Jacobite" depends upon "the conversion of *quantity* into *quality*," which in turn reveals the connection between Scottish nationalism, the significance of "interpretation, and the meaning of form" (92, emphasis mine).

Part II of Wickman's book further delineates "iconic exhibits of the geometrical imagination" (14) in Scottish Enlightenment culture. In chapter three, the focus is on "how theorists of the picaresque negotiated the limits of classical geometry in the scenic and verbal ways they arranged the Scottish landscape" (15). Here the common tropes of Scottish romanticism—"bizarre forms of nature" (15), "emptiness" (96), the "interstitial" state, the "uncanny" (107), and not least, "the sublime" (107)—

are given their geographical and ontological due. But this is not a rote affirmation of the Romantic rejection of science. Wickman's sublime is a "*mathematical* sublime" (107, my emphasis), which means that "multiplicity" and "the unrepresentable" (112) are invitations for the experimenter to render a heretofore unfathomable world provisionally knowable through the artifice of geometrical reason.

The violent removal of people during the Highland Clearances does not merely signify emptiness, or (Wickman is here recalling Marx) a "visibly empty" result of the "social process of depletion" (115). Rather, this emptiness is "filled with history and therefore meaning" (116). Though the Highland landscape "bears the marks of multiple erasures," we can still know things about it and act better, still have our cake of the so-called "sublime" and eat our "politics of resistance and social critique" (115). The "uncanny" does not forbid what Clifford Siskin and William Warner insist is the Re:Enlightenment project of error correction.[2]

This is what makes Chapters 4 and 5 the two highlights of Wickman's exceptionally consequential book. Chapter 4 comes directly to Wickman's ultimate point, which is to reveal the far-reaching significance of the "conflict between form and number" (16). Conflict doesn't go away in the form of reducing the estranging (*and* we should say, Enlightening) vicissitudes of number to the mere complacency of form. On this point, Wickman stages a masterful comparison between Burns and Smith on moral sympathy. He shows how Burns "gives voice to the multitude … [as] unable to become 'one'" (152), where *oneness* means an idealistically synthesized form of unity or wholeness, as in Smith's desire for a commercial socius undisturbed by "structural imbalance" (155).

Wickman echoes Ian Duncan's observation that Smith's version of moral sympathy "flattens" any social fluxion deemed inimical to the operations of the capitalist marketplace.[3] "Sentimental gazing … sublates … divisive feelings into a series of orderly, generally socially progressive social operations" (153; 155).[4] In contrast with the commercially directed triangulation of the spectator (the flat geometrical relation between the onlooker, the sufferer, and the ideal), Burns presents us "less with substitutions than with networks," and "with a concept of human nature and

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[2] See, e.g., Clifford Siskin and William Warner, *This is Enlightenment* (Chicago: University of Chicago Press, 2010); and cf. Siskin, *System: the Shaping of Modern Knowledge* (Cambridge, MA: The MIT Press, 2016), 88, 101.

[3] Ian Duncan, *Scott's Shadow: The Novel in Romantic Edinburgh* (Princeton, NJ: Princeton University Press, 2007), 265.

[4] Full disclosure: I made the same argument with Warren Montag in our recent book: Mike Hill and Warren Montag. *The Other Adam Smith*. (Stanford, CA: Stanford University Press, 2015).

civil society" that has a "virtually infinite plenitude of relations" (156). As such, Burns as "plowman-poet"—and equally, Burns as moral geometer—works in a way that is both laborious and aesthetic, both useful and beautiful, both real and artificially made.

Chapter 5, which initiates the final section of the book, may be regarded as a close companion to Chapter 4, and an equal highlight, for the same reason of moving between "the mystery of fluxions" (136), "the uncanny artifact" (134), and "what counts" (145). Wickman returns here more squarely to Newton in order to "bypass a certain romantic ideology," for example in Kant and Wordsworth, that rejects Enlightenment science for the compensatory experiences of subjectivity and the imagination. Wickman's goal here is to show how the "practical efficacy" of Newton's fluxional calculus need not jettison its corresponding "riddles" (16). His counter example to traditional romantic rejections of empirical reality is Thomson's *The Seasons*, which he describes as example of "poetic counting" (176).

Here we see "not only an *encomium* to science but also a self-reflexive celebration of poetry" that "bestows the title of *poietes*—'maker'—on Newton" (176). In this "strange merger of the empirical and the ideal" (165), the "logic of figure" that is implicit within "Newtonian geometry [is] extended into the domain of the literary" (165). This is not a simple reduction of the real world to what is habitually imagined to be real, as in Kames's "ideal presence" (178). Rather, Thomson's poem is an exercise in geometrical reason: "imagination necessarily supplements the abstraction of science," and "the mind [gains] harmonious relation to its tools as well as its environment" (167). New knowledge begins where idealism "seems to decompose" (179).

Wickman's concluding arguments in Chapter 6 push toward "the historical limits—the origins and aftermaths—of [an] eccentric Euclidianism" that reaches well into twentieth- and twenty-first-century modernisms. Here Reid returns with full significance, as his "geometry of visibles" bend towards "speculation on multidimensional spaces," both in "praise—and as a critique—of Newton" (198). In this final move of the argument, Reid's critique of idealism reaches toward the discrete lineage of such temporally and geographically diverse movements as the Celtic modernism of MacDiarmid in the early 1920s, the French Symbolists poets before that, Poe in his poem *Eureka*, "the zigzagging lines of the vorticism movement" (210), and contemporary speculative realists who are today attempting to reclaim significance (*contra* Kant) for the "Thing Itself" (215).

Regarding *Ossian*, the gothic, Scottish nationalism, the Union, the Enlightenment, and all the rest, as problems of "the complexity of form" (52), Wickman's extraordinary book attempts to "throw a wrench into grand narratives about modernity" (52). That may be what it does. But Wickman must also know that wrenches can be used in other—*better*—ways. He must

know this because *Literature After Euclid* provides better wrenching in the form of a grander narrative than existed in the grand narratives that came before. In this, Wickman himself becomes the figure of the plowman-poet he assigns to Burns, producing a form of historical mapping that brings into fuller view a modernity we never knew that we had.

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