

Lianne Habinek. *The Subtle Knot: Early Modern English Literature and the Birth of Neuroscience.* Montreal: McGill-Queen's University Press, 2018. 304 pp. \$49.95, cloth, ISBN 978-0-7735-5318-7.

Reviewed by Jacqueline Cowan

Published on H-Albion (September, 2018)

Commissioned by Jeffrey R. Wigelsworth (Red Deer College)

Many scholars attempt to untangle the knotted relationship between early modern science and literature. Lianne Habinek's *The Subtle Knot: Early Modern English Literature and the Birth of Neuroscience* does not share this goal. Instead, her book shows how the formative overlaps between poetry and anatomy helped early modern England address pressing cultural anxieties, and, for this reason, she works diligently to keep such knots intact. Habinek argues that early modern conceptions of the brain were woven together by poets and anatomists alike, sharing metaphors that together accounted for the fraught relationship between body and soul. To this end, Habinek takes the power of metaphors as seriously as the seventeenth-century figures she studies, identifying five major metaphors for the brain: the net or knot; the cut or lesion; the womb; the writing machine; and the book. These metaphors serve as the basis for her book's chapters, which chart the respective interventions each metaphor makes in the early modern attempts to locate the physical seat of the soul.

The metaphor of the knot further encapsulates the challenge Habinek poses to the "narrative of scientific progress" (p. 21) that she argues dominates the way we think about the birth of neuroscience today. Far from any linear trajectory where older models are discredited, erased, and

replaced, early modern metaphors of the brain reveal that traditional accounts "do not simply vanish, as shadows to be dispelled by the bright lights of science" (p. 22). Like a knot, older models are instead folded into newer understandings of the brain, weaving new metaphors that implicate the brain in larger cultural concerns. Studying the poetic and anatomical functions of the brain thus becomes a way to understand the rise of neuroscience and, Habinek contends, resolve some of the tensions between what C. P. Snow dubbed the "Two Cultures." Habinek usefully shows that when it comes to the brain, literature and science are intertwined because shared metaphors allow both fields to address pervasive cultural anxieties.

Habinek's first chapter most successfully reintegrates the seemingly irreconcilable "Two Cultures." Here, she unites anatomists, including Galen, Andreas Vesalius, and Helkiah Crooke, and poets, particularly John Donne, who all addressed whether the seat of the soul was a "wonderful net or miraculous knot" (p. 49)—the *rete mirabile*—at the base of the human brain. The *rete mirabile* is unique among the metaphors Habinek addresses because it demonstrates how a poetic understanding of the brain trumped that of anatomists. Because this metaphor expressed, explained, and soothed concerns over the physical location of the soul, Habinek argues that English anatomists re-

fused to abandon a net-like physical structure in the brain even when others, including Vesalius, disproved its existence; “poetic investment” (p. 38), not empirical evidence, ensured that this wonderful net persisted in early modern scientific discourse.

Although her second chapter lacks the depth and theoretical scaffolding of the first, Habinek entwines early modern poetry and anatomy with modern neuroscience by identifying their shared history in head trauma. In this short chapter, she turns to Shakespeare’s melancholic Hamlet to suggest that cuts or lesions to the brain helped early modern poets and anatomists locate and explain the memory. For Habinek, modern neuroscience is rooted in violence, as brain injuries, be they of Galen’s wounded gladiators or Shakespeare’s disturbed dramatic characters, offered a methodology to investigate how mental processes worked.

Habinek’s third and fourth chapters focus on the gendered notions of the brain-as-womb and womb-as-brain that are inextricably linked through the generative power of the imagination. These metaphors were surprisingly literal, as anatomists thought parts of the brain resembled reproductive and sex organs in form and function— notions informed by poetic renderings of Athena’s birth from Zeus’s brain. Habinek argues that the brain-as-womb allowed men, such as William Harvey, to coopt the experience of giving birth and produce a line of writing that outlasts its father. The womb-as-brain metaphor expressed anxieties over the maternal imagination, as a woman’s fancy was thought to influence her unborn child and, in some cases, produce a monstrous birth. In the hands of Margaret Cavendish, this metaphor becomes a writing machine that flips the script of its male counterpart, reclaiming women’s creative agency. Here, Habinek’s insightful discussion of Cavendish’s notion of the brain fills a gap in Cavendish scholarship, which traditionally focuses more on Cavendish’s fancy than on the anatomical structure that housed it.

Habinek’s fifth chapter examines the anatomical texts that embodied the “foundational metaphor” (p. 155) that anchors the metaphors of her previous chapters: the body and brain as book. Habinek begins with a useful history of the flap anatomy, a medical text composed of layered paper that allows curious viewers to perform their own dissection: the paper body literally unfolds as its flaps are peeled back to reveal man or woman stripped closer and closer to the bone. These interactive anatomies popularized medical knowledge, even if “woefully” (p. 160) outdated, and sanitized the messy work of actual human dissections. Habinek traces the innovations of late seventeenth-century editions of *An Exact Survey of the Microcosmus*, “Englished” (p. 155) reproductions of Johann Remmelin’s earlier flap anatomy, *Catoptrum microcosmicum* (1613), and uncovers “for the first time” (p. 179) important discrepancies from Remmelin’s source text: the 1695 and 1702 editions of the *Exact Survey* newly include images “taken without acknowledgement” (p. 177) from the works of Thomas Willis, the *Cerebri anatome* and *De anima brutorum*. These innovations, Habinek argues, updated Remmelin’s depiction of the brain with current knowledge and, as a result, the “opened skull” is “no longer the repository of an ossified, arcane knowledge” but “the emergence of a new book in which to read the soul’s progress” (p. 203).

Habinek unites various strands of early modern thought about the brain to insightful ends. At times, though, she ties this knot too tightly. Habinek is candid about this problem: “we will begin here by assuming that there were no functional barriers between literature and science in the early modern period—or that, to the extent these were emerging, the gaps were easily traversed by such writers as Crooke, John Donne, Shakespeare, William Harvey, and Margaret Cavendish” (p. 16). Habinek attempts to substantiate this assumption with recourse to shared metaphors. But without a lengthier discussion of relevant scholarship or a more in-depth look at

the stakes of early modern poetry and anatomy, she overstates the case. Given Habinek's focus on metaphor, more attention could be paid to the controversies over language that influenced how those she studies overcame "gaps" among fields. The craft of metaphor was hotly contested ground from Philip Sidney to George Puttenham to Francis Bacon and to various Royal Society Fellows, all of whom Habinek discusses. Debates over the power of language shaped early modern knowledge practices, stretching traditional ties between early modern literature and science in ways that Habinek overlooks. Cavendish, for instance, hedges potential criticism when she defends why her fanciful *Blazing World* and her serious *Observations upon Experimental Philosophy* ought to be published together as one book (1666), taking belabored steps to "traverse" the fields she suspects other natural philosophers would deny her entry. As Habinek presents it, shared metaphors are insufficient to overleap larger discussions of the tensions between the fields of knowledge she claims to lack "functional barriers." Here one might look to Joanna Picciotto's *Labors of Innocence in Early Modern England* (2010) and Ayesha Ramachandran's *The Worldmakers: Global Imagining in Early Modern Europe* (2015) for guidance. Akin to Habinek's use of the brain, both these books show how a concept shared among several fields of knowledge—the figure of innocent Adam and "the world," respectively—transforms early modern literature and science, but they do so without sparing the cultural context that made this transformation so important. Habinek's contextual omissions, however, do not affect her original aim. *The Subtle Knot* opens new and productive ways to address the birth of neuroscience, cleverly identifying how this modern discipline once relied on a concept of the soul that today it might deny.

If there is additional discussion of this review, you may access it through the network, at <https://networks.h-net.org/h-albion>

Citation: Jacqueline Cowan. Review of Habinek, Lianne. *The Subtle Knot: Early Modern English Literature and the Birth of Neuroscience*. H-Albion, H-Net Reviews. September, 2018.

URL: <https://www.h-net.org/reviews/showrev.php?id=52661>



This work is licensed under a Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 United States License.