

ROUNDTABLE 1: HEALTH HUMANITIES

Contemporary Poetry as a Dissection Tool for the Study of Anatomy in Medical Education

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Abstract

Anatomy has always been a complex subject to teach and learn. Historically, anatomy has been taught via cadaveric dissection, a modality that has declined in recent years due to a shortage of body donations and a pedagogical shift in using virtual reality and technological tools. Today, the teaching of anatomy in medical schools worldwide incorporates the medical humanities. While theoretical knowledge of anatomy is certainly necessary in the healthcare setting, recentring the focus of healthcare from mechanistic models of the body to its transposed context in literary forms such as poetry offer an alternative way of viewing the body, from a mechanistic model to a holistic one that unites the body's biology with a patient's selfhood. Through an analysis of two ekphrastic poems about Dr. Nicolaes Tulp's famous anatomy lessons by contemporary American poet Linda Bierds, I argue that the body (cadaver) that has been deconstructed through anatomical dissection can be reconstructed in poetry via a "poetic dissection." As a case study, Bierds's poems demonstrate how the sensory experience of anatomical dissection can reframe dissection as a poetic tool, enhancing the ways in which anatomy, and by extension medical humanities, are taught in medical schools.

Keywords: anatomy education; contemporary poetry; interdisciplinary pedagogy; literature and science; medical humanities

While many medical humanities courses appear to focus on highlighting the importance of patient-centric care rather than body-centric healthcare, few seem to tackle how cadaveric dissection in literature affects how the body is contemplated, from a mechanistic view to a more holistic, humanistic view. As a case study, I will analyze two contemporary poems by American poet Linda Bierds which feature dissection as a way of understanding anatomy. My aim is to demonstrate the multiple layers of seeing embedded within Bierds's poetic conceptions of the human body / anatomy beyond a lifeless cadaver during the dissection process, exploring how poems like these reflect on the study of anatomy and the practice of anatomical dissection itself. By examining the motif of sight as a visual form of dissection, what I am calling poetic dissection, I explore how Bierds's poetry presents portraits of the body as represented by an artist / poet and doctor. I will also investigate

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how the poems' various gazes—poet, Tulp, body, ape, Rembrandt, the painting itself—transform sight into insight through the practice of poetic dissection.

Enter the gross anatomy laboratory and you will be greeted by the pungent, sharp smell of formalin that burns the lungs. Taking shallow breaths, medical students embark on cadaveric dissection; a rite of passage to become initiated as future healthcare professionals. It is in cold rooms like these where they encounter death up close. The stakes of their profession are laid bare and lifeless on a stainless-steel table. Students are confronted with the three-dimensional anatomy of deceased bodies unlike the sanitized two-dimensional anatomical drawings they have studied in *Grant's Atlas of Anatomy*. With an eye-watering 665 subsections depicting the various anatomical “structures of the human body, region by region, in much the same order as the student displays them by dissection,” the textbook unconsciously promotes a view of the body as mechanistic.¹ Notably, the book's cover (Figures 1 and 2) features Dutch painter Rembrandt's painting (Figure 3) *The Anatomy Lesson of Dr. Nicolaes Tulp* (1632). Bierds's poems draw inspiration from Tulp's cadaveric dissection and Rembrandt's painting representing that dissection in art.

The term autopsy—a form of dissection performed in medicine and pathology—etymologically derives from the Greek word *autopsia*, “a seeing with one's own eyes.”² What do

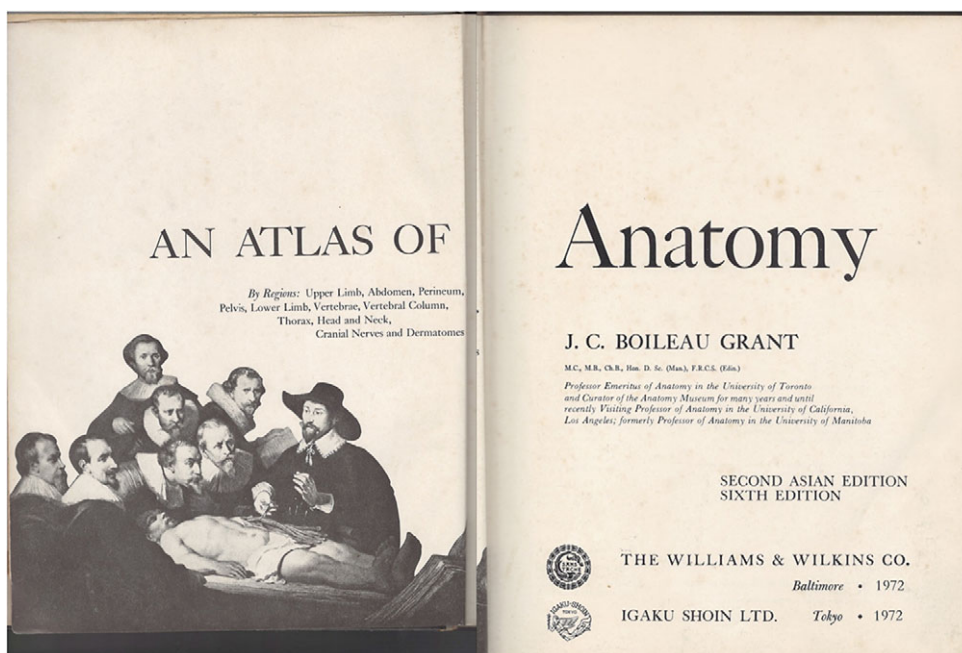


Figure 1. Scanned image of the title pages of *Grant's Atlas of Anatomy* showing a reproduction of Rembrandt's painting, taken by the author for paper presentation slides for the BSLS-SLSAeu-CoSciLit Conference at The University of Birmingham (2024). Note: The original textbook belongs to the author's father Dr. Tan Eng Joo (B.D.S. Singapore) and was part of the undergraduate medical / dental curriculum at the National University of Singapore in the 1980s.

¹ Grant 1972, Preface to the Sixth Edition (Second Asian Edition), vii.

² “Autopsy” n.d.

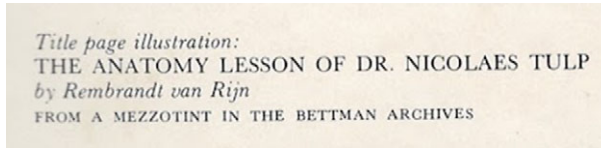


Figure 2. Scanned image of *Grant's Atlas of Anatomy's* title page illustration attribution, taken by the author for the same academic conference above (2024).



Figure 3. Oil painting on canvas by Rembrandt van Rijn, *The Anatomy Lesson of Dr. Nicolaes Tulp* (1632).

poets see about the body that doctors cannot see? Where do their lines of sight intersect and deviate within the poem? Both visual and anatomical dissection serve as a device to frame the body, and this article serves as my own ekphrastic response to the concept of poetic dissection. I contend that how one sees is the crux Bierds's poetry, Rembrandt's painting, and the medical humanities. Poetry like Bierds's model ways of seeing cadavers as more than bodies. Beyond establishing an in-depth knowledge of anatomy, another key goal of medical education is to train students to pay close attention to the body and draw connections between symptoms. The observation skills fostered in visual dissection through poetry is important in medical education because the "close reading" of patients' bodies to determine underlying causes of diseases are crucial diagnostic skills for future clinicians. I propose that the inclusion of poetic dissection in anatomy education can facilitate a reframing of the body, not just as an object of study but as an embodied subject with past medical, family, and social histories. This has implications on the way medical students and healthcare professionals would see patients during their clinical practice: as people instead of diseased bodies.

The first poem, “The Anatomy Lesson of Dr. Nicolaes Tulp: Amsterdam, 1632,” is an ekphrastic poem based on Rembrandt’s painting of the same name (Figure 3). As a key figure in medical history, Dr. Tulp was the “appointed praelector (lecturer) of the Amsterdam Guild of Surgeons, and widely considered one of the most brilliant anatomists, physicians, politicians, and socialites of the era.”³ The poem opens with Dr. Tulp’s public dissection lesson that takes place during the Dutch Golden Age in the 17th Century. Yet it is Aris Kindt whose body is foregrounded in both painting and poem despite being unnamed in Rembrandt’s painting. Strikingly, Bierds makes a distinction between lesson and dissection, touting it as “A lesson! / A dissection!”⁴ with exclamation marks. She suggests that the lesson is on human anatomy, but dissection itself serves as a mode of seeing where understanding is the underlying focus. In the subsequent stanza, she writes that in the “Theatrum Anatomicum, the surgeons will come ... then the bleeders and barbers, / the wheelwrights, needle-makers, goldsmiths, / the potters and sculptors.”⁵ Bierds utilizes anaphora in “the surgeons,” “the bleeders,” and “the wheelwrights” to create a listing effect that places all the figures on the same level of hierarchy. Bierds paints a picture of Tulp’s dissection as a public spectacle where surgeons, artists, and ordinary citizens alike could come and observe human anatomy firsthand, dismantling notions of anatomy as specialized knowledge only reserved for doctors. But Bierds seemingly disrupts our vision by shifting to Rembrandt’s line of sight, depicting him as hovering over Kindt’s body, “the shadow of a painter’s hat / circles, re-circles, like a moth at a candle.”⁶ Bierds interestingly subverts the “moth to a flame” adage, using the simile “like a moth at a candle” to depict how both surgeon (Tulp) and painter (Rembrandt) cast their attention on Kindt’s body. This use of the preposition “at” rather than “to” positions Tulp, Rembrandt, and Bierds as moths that are deliberately circling and re-circling the figurative flame (the body).

Bierds suggests that this does not just signify an intentional act of doctor, painter, and poet examining the body from varying distances. As both Tulp and Rembrandt take turns being the poem’s subject, they each assert their own perspectives, leading to an emergent sum view of the body as more than the sum of its anatomical structures. The objective of anatomy “is predicated on the idea that the body has a clinically insightful story to tell.”⁷ This is where the medical humanities come in. For medical students, their receptiveness to the stories of the body (both alive and dead) is what determines how much they can truly understand about its function and how to heal it. Psychiatry professor and poet Owen Lewis who teaches narrative medicine asserts that the value of teaching poetry is “the shaping of observation by personal context.”⁸ Poetry allows students “to understand the fuller context of an illness in a patient’s life” as well as “their own emotional response to that clinical situation.”⁹

In medical curriculums that utilize cadaveric dissection to study anatomy, sight and touch are direct tools students employ to understand the physical structure of the human body. Yet this scientific knowledge of the body’s function is insufficient at capturing an individual in totality. To only use dissection’s lens (touch) and physical sight to understand the body would be biological determinism. The reduction of patients to their bodily ailments systematically erases their status as individuals with personal and social histories because

³ Di Matteo et al. 2016.

⁴ Bierds 1988, 57.

⁵ Bierds 1988, 57.

⁶ Bierds 1988, 57.

⁷ Brenna 2021, 2.

⁸ Gholipour 2019.

⁹ Gholipour 2019.

“illness is as much a disruption of biography as it is of biology.” To reconcile internal notions of the self and diseases of the body, an interdisciplinary approach is required. Some doctors like Mark Hyman believe that “the practice of medicine today is ... siloed and ignores the current science that has revealed the body to be one whole integrated system.”¹⁰ According to Hyman, the future of medicine and healthcare requires a paradigm shift to functional medicine or network medicine. This is a medical paradigm that “embraces the complexity of multifactorial influences on disease” and is “the marriage of systems biology and network science.”¹¹ Poetry can help change the way we view the body, from a collection of limbs and independently functioning biological components to an interconnected web of biological systems working together to keep itself alive.

Even though Rembrandt's portrait is focalized through Tulp's anatomy lesson, Bierds expands upon the painting's field of vision to include the perspectives of the doctor, artist, and body being dissected. She includes the artist Rembrandt in her portrait of the body, also juxtaposing the ironic immortalization of Kindt's death with the surgeons whose lives, not deaths, are preserved through painting and poetry. Bierds writes, “Rembrandt walks past the breechcloth, then the forearm / soon to split to a stalk that would be grotesque / but for its radiance: rhubarb tendons / on a backdrop of winter” (58). [Figure 4](#) is an example of how these arteries in the human forearm are depicted in anatomy textbooks.

Bierds continues with the anaphora of “and here” in the lines “And here will be Tulp ... And here, perhaps Hartman, perhaps the shadow of / a violet sleeve closing over the death-face.”¹² Here, she foreshadows how “eight faces / forever immortal, and one -slightly waxen - / locked in mortality!”¹³ Kindt's death is ironically immortalized and juxtaposed with Dr. Tulp's immortalized life. Reflecting on the bioethics of the cadaveric dissection, literature professor John Bender remarks that “To open a human body is to enter the realm where life and death cohabit.”¹⁴ And indeed, Bierds seemingly introduces an ethical component to this portrait of the body: Kindt's body was sanctioned to undergo dissection in death due to his status as an executed thief. Bierds implies that regardless of who an individual was in life, their body in death should be treated with respect and their contributions to public education recognized.

Transposing this historical dissection to its relevance to modern healthcare education, the naming of Kindt is a significant detail. Dr. Wong Ji-Wei concurs on the importance of naming cadavers as “It humanizes them; they are people not bodies.”¹⁵ Many healthcare students regard cadavers as “first teachers,” expressing gratitude for the gift of their bodies. The afterlife of this act lives on, years later, in the everyday practice of healing that healthcare professionals contribute to. Addressing the bioethics of working with cadavers, Bierds poses an implicit question in her poem: In our reading of Kindt's body, are we complicit in objectifying him as a lifeless body to be dissected rather than a once living human? In the poem, Rembrandt's gaze of the body is portrayed as almost predatory: “He smiles. / How perfect the ears, and the pale eyelids / drawn up from the sockets.”¹⁶ The poem closes with Rembrandt turning away from the Kindt's body, allowing the reader's eyes to refocus on the

¹⁰ Hyman 2023.

¹¹ Loscalzo et al. 2017.

¹² Bierds 1988, 58.

¹³ Bierds 1988, 58.

¹⁴ Bender 2002.

¹⁵ Dr. Wong Ji-Wei, unpublished interview, 2025.

¹⁶ Bierds 1988, 58.

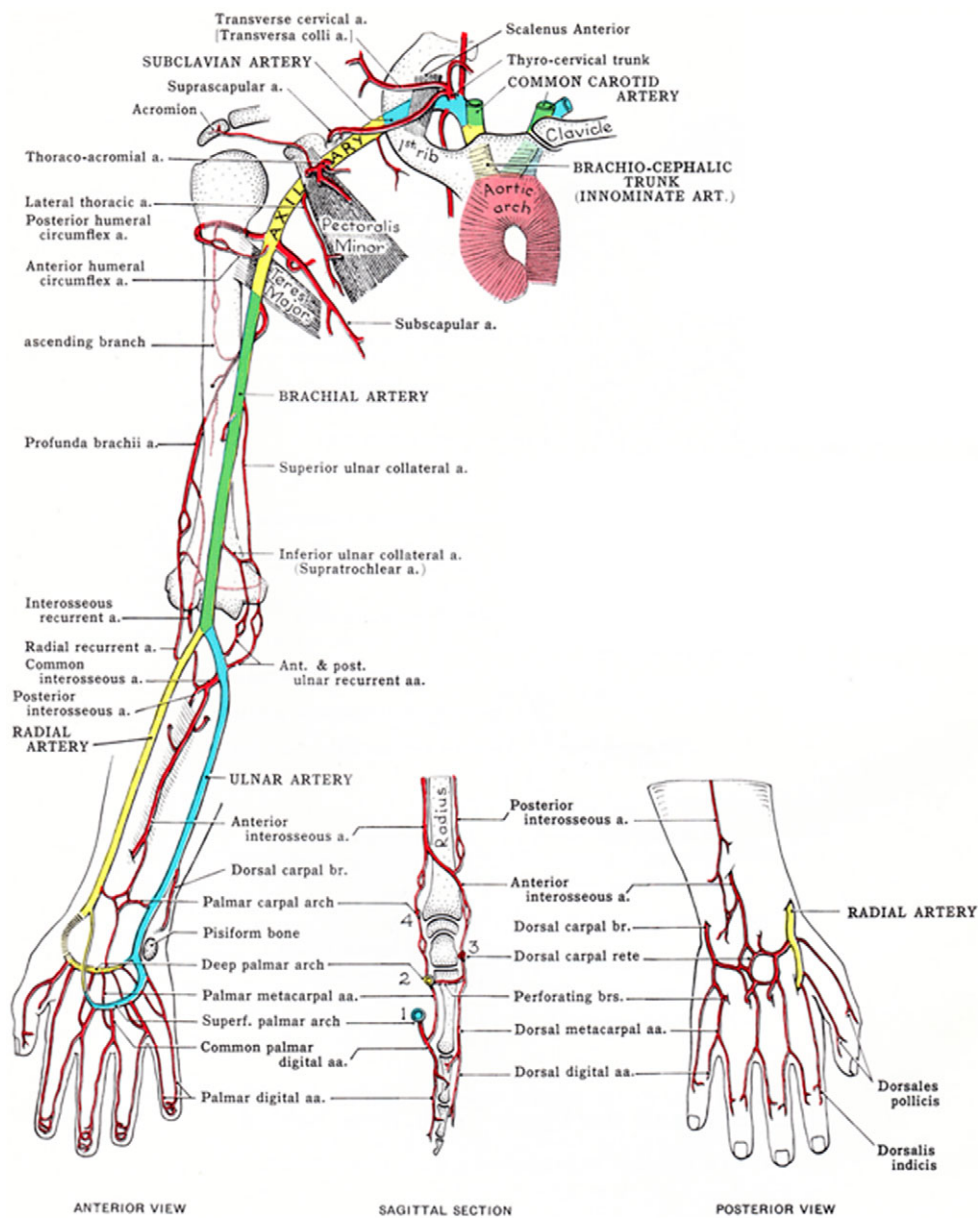


Figure 4. Diagram of the Named Arteries of the Upper Limb from John Charles Boileau Grant's *An Atlas of Anatomy* (1962).

“canvas clogged with the glue-skin of rabbits – a wash / of burnt umber.”¹⁷ The word “clogged” appears again, except instead of denoting obstructed vision, Bierds argues that the body which has been deconstructed in anatomical dissection is now reconstructed in poetry.

¹⁷ Bierds 1988, 58.

Part of the difficulty of learning a subject like anatomy is piecing together how all the different components of the body function in tandem. “Cadaveric dissection provides a macroscopic appreciation of microscopic details,” Dr. Tan Eng Joo notes.¹⁸ But the problem with current approaches to teaching and learning anatomy is that it objectifies the body, resulting in a persistent gap between anatomical theory and its application in the patient context. Although cadaveric dissection used to be the gold standard of anatomy education, there has been a shift to digital dissections. Thanks to technological advances, medical schools have been able to opt for alternative modalities to conduct anatomy lessons. These include virtual reality dissection and 3D imaging models, interactive software simulators, artificial intelligence, and so on.

While virtual models of the body are useful to gain anatomical knowledge and address inaccuracies in the appearance between cadavers and living bodies, it also creates distance between the medical professional and the body. It teaches about biological structures but not how to treat patients. This is where poetic dissection can come in, as the “gap in practice between treating the disease and caring for the person is what the medical humanities can fill.”¹⁹ One anatomy professor who teaches anatomy using interactive three-dimensional software notes that while virtual anatomy education has its benefits, without the cadaver, students might “lose the emotional, even philosophical impact of working with a cadaver.”²⁰ Thus, the main risk of anatomy being studied as a disembodied subject in school is that it reduces the patient to a collection of symptoms rather than human beings who are suffering physically.

For Bierds, each time one returns to study the body—whether through cadaveric dissection or visual dissection through poetry or drawings—one recreates their understanding of the body’s structure, function, and meaning to human life. She returns to the figure of Tulp in another poem, “Sketchbook: Dr. Nicolaas Tulp, 1635.” This time, Tulp is featured as an artist instead of a doctor, dissecting the body through drawing a portrait of an ape in his renowned text, *Observationes Medicae*. Bierds foregrounds the paradoxical nature of sight as both limiting and expansive, arguing that the optical illusions constructed by representations of the body in painting and poetry can exist as its own form of artistic dissection that reviews the body in the context of who dissects it. Attempting to open our eyes again, “Sketchbook” begins like Tulp’s diary entry, chronicling what he has learnt from his many forays into the human body, emphasized by the double refrain of “Because, each week, he has entered the body / its torso, freshly sanitized, its legs and arteries”²¹ and “Because he has entered / the forearm and cortex, the lobes and hidden / vortices, deeper, then deeper.”²²

The reader’s line of sight in this poem follows Tulp’s entering of the body, from torso to legs to arteries to forearm to lobes, “until what remains / – shallow, undissected flesh – seems simple lines, their one dimension shadowless.”²³ The sibilance of the letter “s” lends itself to the fluidity and ease of the scalpel as it sings along the flesh as well as the sinuous sketches that Tulp makes of the ape. Using these dual perspectives of Tulp as both surgeon and artist across the two poems, Bierds demonstrates how an object of study can become the subject through the process of literal and poetic dissection. She writes “and because he is tired and

¹⁸ Dr. Tan Eng Joo, unpublished interview, 2025.

¹⁹ Devanand and Ong 2021, 6.

²⁰ Gholipour 2019.

²¹ Bierds 2014.

²² Bierds 2014.

²³ Bierds 2014.

has been himself a subject / Tulp crumples his page, then tries again / to sketch a caged orangutan.”²⁴ Just like the ape is Tulp’s subject, Tulp himself is also unwittingly the subject of Rembrandt’s painting and Bierds’s earlier poem “Anatomy Lesson.” And both Tulp and the ape are the subject of Bierds’s poem and our reading of it. In this poem, Bierds expands upon the motif of sight by allowing the subject in the poem (the ape) to have its own perspective. She states that “the animal slips its shallow glances upward, / downward.”²⁵ Here, Tulp’s gaze is turned back on him by the object of his study.

So how can healthcare students recalibrate their vision of anatomy and see the body as in a more holistic way? Bierds’s poetry offers a potential answer in its self-reflexivity and self-reflectivity. First, they need to circle back from anatomy textbooks and cadaveric dissection to see the body as integrated biological systems. Next, they should see themselves as part of what they are studying. In Bierds’s second Tulp poem, the circling motion of the ape who contemplates the surgeon who draws it is reminiscent of the moth’s revisiting of the flame in “Anatomy Lesson.” Except this re-circling gaze is an incomplete one. The poem evinces that the equivocal gaze from “man to beast to page / to man” can only be completed by the reader, an external line of sight that forms the backbone of Bierds’s ekphrastic writing. Evidently, the illusion presented in “Sketchbook” is one of unidirectional sight. Lines of sight can intersect and what is looked upon has the power to look back in poetry. In poetry, the passive object (the body being dissected) can become the active subject that provides its own sight, participating in its own bodily representation. Bierds concludes “Sketchbook” by reiterating what she wrote at the end of “Anatomy Lesson,” that is, that artist, poet, and cadaver are “all things of the earth,”²⁶ all bodies that are dissected by others and perform their own visual dissection. Likewise, “Sketchbook” underscores that regardless of the lens in which one views the body (from art, poetry, or medicine), our sight still condenses into representation through art. In this case, man and ape are unequivocally “dimensionless, mammalian.”²⁷ Bierds points out similarities between human and ape bodies through the forearm, emphasizing the universality of bodies: dead or alive, human or ape. Tulp, Kindt, the ape, and the reader are all just bodies studying other bodies.

Ultimately, poetry augments the way we view the body and reframes dissection as a poetic tool. In Bierds’s poetry, sight is a motif, metaphor, and modality of understanding the body. The assay of the body through visual dissection is accomplished through the mediation of the surgeon’s, poet’s, and reader’s combined lines of sight. For poets like Bierds, “One way to see more is to borrow others’ seeing” and this process of poetic dissection is what Bierds’s two poems exemplify.²⁸ Unlike scientific / medical dissection that focuses on only the object itself, poetic dissection centers around the subject that perceives it, transforming sight into insight. Poems like Bierds’s can encourage healthcare students to reflect on the fragmentation of the body in existing curriculum and attempt to piece together a more holistic view of the body that encompasses both biology and self.²⁹ Medical humanities in anatomy education is not just a complement but should be assimilated into the entire healthcare curriculum, not only equipping students with a new set of eyes with which to view the body and person whose health they are caring for but also modeling how the practice of medicine is “part science, part craft and part art.”³⁰

²⁴ Bierds 2014.

²⁵ Bierds 2014.

²⁶ Bierds 1988, 59.

²⁷ Bierds 2014.

²⁸ Hirshfield 2024.

²⁹ Cerceo and Vasan 2023, 3.

³⁰ Fitzgerald and Callard 2016, 37.

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