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Darcy Grimaldo Grigsby, *Colossal: Engineering the Suez Canal, Statue of Liberty, Eiffel Tower, and Panama Canal; Transcontinental Ambition in France and the United States during the Long Nineteenth Century*. Pittsburgh, Penn.: Periscope Publishing, Ltd., 2012. 200 pp. \$65.00 US (cl.). ISBN978-1-934772-76-8.

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In the nineteenth-century quest for the new and the gargantuan, recounted by Darcy Grimaldo Grigsby in *Colossal: Engineering the Suez Canal, Statue of Liberty, Eiffel Tower, and Panama Canal*, all roads led to Egypt and the formidable shadow cast by the pyramids. Significantly, Egypt was the site of Napoleon's ill-fated campaign and later the most ambitious engineering project of the mid-nineteenth century, the Suez Canal. These episodes serve as points of departure for a book whose ambitions echo those of its subject matter. In this sustained examination of the drive to enormity, Grigsby explores the aesthetics and ethics of four elaborate engineering projects that together defined potent visions of modernity. Intersecting sites and protagonists are drawn into this defining orbit, most notably Frédéric-Auguste Bartholdi, whose iconic Statue of Liberty was based on earlier, unrealized plans for a monumental statue that would crown the Suez Canal, Gustave Eiffel, who also traveled to Egypt in 1865 amidst the canal's construction, and the Panama Canal, which aspired, at every turn, to dwarf its Egyptian predecessor. Throughout the book, the ancient pyramids of Pharonic Egypt loom large as the ultimate rivals that all of these schemes, in one way or another, sought to exceed. The intricate interweaving of these narrative threads across six chapters is among the book's most admirable strengths. We encounter Gustave Eiffel not simply as the designer of his famous Tower in Paris but also as the engineer of the ingenious structure that literally holds Bartholdi's Statue of Liberty upright, as well as a key link, along with Ferdinand de Lesseps, between the Suez and Panama canals, by way of Paris and New York.

Grigsby's investigation responds directly to Kant's definition of the colossal as "the mere presentation of a concept which is almost too great for presentation, that is, borders on the relatively monstrous" (p. 17).<sup>[1]</sup> Importantly, Kant noted that scale is a relative measure, one fundamentally dependent on the human body and perceiving subject. Following Aristotle's *Poetics*, Kant asserted that vast size overwhelms comprehension and contravenes the dictates of beauty because the unity of the whole is too easily lost to the viewer. In turn, the appreciation of the part—the individual stones that make up the pyramid, for example—makes it difficult to retain an understanding of the whole. For Grigsby, these defining problems of perception attendant to the man-made colossus are inextricably entangled with materialist considerations of politics and economics. Here the author parts ways with Kant, turning instead to the eighteenth-century traveler and political theorist Constantin-François Volney, whose account of his visit to the pyramids provides a compelling analytic framework that, in Grigsby's view, "makes possible political criticism" (p. 33). Volney's vivid description of the visual and physical qualities of the pyramids offers a sustained reflection on the conditions of forced labor and tyrannical power that facilitated their erection. Size is central to the colossal, but temporality is likewise significant, framed here in terms of the material processes of construction.<sup>[2]</sup> A critical aim of *Colossal* is to bring the largely overlooked workers on whom vast engineering projects depended back into view, much as a photograph by Henri Rivière from 1889, *Eiffel Tower, Painter on a Rope* (fig 4), provocatively suggests. Unlike innumerable photographs of this structure framed either from a distance or from within its disorienting iron latticework, here a lone worker dangling precariously from a rope provides a revealing

glimpse into the actual labor of the tower's construction.[3] For Grigsby, the aesthetic quandaries posed by these ambitious works necessitate seriously grappling with the exploitation of workers and the bids for power and profit upon which the modern capitalist-imperialist system was built.

For those readers oriented to France and the Francophone world, *Colossal* traces a distinctive and expansive geography of interconnections, stretching from France, across the Mediterranean Sea to Egypt, and across the Atlantic to New York and Panama. These episodes traverse boundaries that have generally defined separate historiographies, focused either on France's transatlantic engagements, or on its imperial projections and conquests across the Mediterranean region. The book thus stages a productive dialogue between the trans-Atlantic and trans-Mediterranean itineraries it traces. Although French actors initiated the major projects examined here, they were increasingly reoriented--most spectacularly in the case of the extended contest to realize the Panama Canal--by the ascendant hegemony of the United States. In its focus on large-scale infrastructure and iconic monuments, Grigsby's project resonates with Zeynep Çelik's comparative analysis of new systems of communication, transportation networks, and monumental building projects that became defining landmarks of French and Ottoman imperial ambitions across the Mediterranean Sea.[4] Çelik emphasizes the formative role of infrastructure and architecture in making manifest the territorial and ideological claims of empire. By contrast, Grigsby insists that the overriding impetus for the projects she examines is "the expansion of markets for investment" (p. 15). In these instances, facilitating the flows of commodities trumped territorial expansion.

While the four major projects featured in *Colossal* are far from obscure, Grigsby trains a fresh eye on both the material conditions of their construction and the fundamental role of representation to their realization and imagined significance. Indeed, the book admirably brings into dialogue two literatures that have been almost entirely isolated from one another: the history of engineering technologies and the history of image-making technologies. Grigsby takes off from Tom F. Peters, who has argued that the nineteenth century saw the radical transformation of engineering from the relatively circumscribed design of machinery for the Suez Canal to the "design of integrated systems and processes" at the Panama Canal.[5] However, she resituates this history through an expanded lens, one built upon a provocative critique of the longstanding opposition between industrial technology and the "humanistic" arts (p. 11). The result is an innovative and insightful visual culture of engineering. Grigsby's ability to move across scales, across media, and across usually distinct disciplinary realms of knowledge is impressive. Far from simply products of professional expertise, as Peters would have it, iconic engineering projects from the Suez to the Panama canals were mediated by specific materials, methods of fabrication, and techniques of representation. Grigsby takes pains to trace, with both technical precision and sensitive visual analysis, these intersecting processes, from the descriptive geometry that informed analytic drawings in the *Description de l'Égypte* and the mathematical calculations that generated the Eiffel Tower, to the technologies of photosculpture and stereography that were critical to the creation of the Statue of Liberty and the dissemination of images of the Panama Canal. The numerous full-color reproductions featured in *Colossal* likewise figure amongst the book's notable contributions, particularly the sequence of William Bradley Van Ingen's extraordinary murals created for the Panama Canal Administration Building that are reproduced in their entirety for the first time.

The titles of the book's six chapters explicitly signal the author's abiding concern with the mediation of materials and media. Following the introduction, the first chapter, "Egypt's Size: Stone/Paper," considers the monumental product of Napoleon's campaign, the five-volume publication, *Description de l'Égypte*. Here close analysis of select plates reveals tensions between ideal geometric form and materiality that haunt Grigsby's entire study. Although the systematic attempt to map and discipline Egyptian terrains ultimately failed, Egypt nevertheless emerges as the defining origin of the grandiose engineering projects examined in subsequent chapters. In this context, drawing is framed as a foundational system of knowledge production, particularly for engineers trained in France who took part in Napoleon's campaign. The second chapter, "Suez's Statue: Earth/Photography," maintains the

focus on Egypt, while turning to the construction of the Suez Canal and anticipating the following chapter's examination of Bartholdi's unrealized colossal statue, *Egypt Bringing Light to Asia* (1867–69), which featured an Egyptian woman, or female *fellah* (peasant), and was to crown the canal's entrance. Grigsby positions Bartholdi's unrealized sculpture in dialogue with the series of drawings he made of women carrying water at the banks of the Nile and the photographs Maxime Du Camp took while traveling through Egypt with Gustave Flaubert. Whereas photography threatened, in this context, to displace drawing as the preferred and authoritative instrument of documentation, Grigsby argues that because early photography was unusually subject to the will of the sitter—particularly given the demands of extended immobility—drawing was ultimately more effective in the production of recognizable types, evident in the case of Bartholdi's female *fellah*. In its staging of heroic singularity and timelessness, the projected statue effectively “suppresses the labor of her 40,000 male counterparts” (p. 56).

The third chapter, “Liberty's Surface: Photography/Metal,” further explores the multifaceted relationship of photography and sculpture, while shifting attention to Bartholdi's famous Statue of Liberty, understood to rework his earlier Egyptian peasant woman in a new guise. Bartholdi's ambitious project involved multiple translations and serial reproductions. In the process, photosculpture, casts, molds, and models contributed to an extended reflection on the fragment (p. 77). Shifting from an initial emphasis on optical operations to an increasing reliance on tactile making, the process of fabrication was critical to the “betwixt and between status” (p. 92) of the resulting figure, more surface than mass, simultaneously sculpture and building. The subsequent chapter, “Eiffel's Emptiness: Volume/Mass,” serves as a key linchpin of the book, as it ties together the Suez Canal, the Statue of Liberty, the Eiffel Tower, and the Panama Canal by way of Gustave Eiffel, Bartholdi, and Lesseps, in order to claim their shared fixation on the elimination of mass and the extension of surfaces as defining characteristics of modernity. At the same time, the examination of Bartholdi and Eiffel's collaboration on the Statue of Liberty reveals the divergent preoccupations of the sculptor and the engineer, tensions particularly acute in the latter's fixation on translating lines of force into geometric structure.

Chapter five, “Panama's Cut: Stereoview/Painting,” probes the limits of such universalizing visions of geometric precision when confronted by the unique material challenges posed by the Panama Canal's construction. Despite the remarkable connections traced between this episode and earlier ones in the book, the Panama Canal dwarves the rest in terms of its complexity and scale, not to mention its sheer destructiveness in both environmental and human terms. Through a fascinating, detailed comparison of stereoviews representing the Panama Canal and Van Ingen's magisterial panoramic paintings, Grigsby reveals their divergent visual strategies and the ways in which they both participate in fantasies of depth and effortless erasure. In chapter six, “Toyland: Model/Miniature,” Grigsby considers how the lure of the colossal is always accompanied by the impulse of miniaturization and the desire “to shrink the colossus into something hand-held and portable” (p. 160). The book concludes with “Coda, Tallest?,” which considers the continuing legacies of the nineteenth-century obsession with the colossal in the present moment, with particular attention to the on-going race to build the world's tallest building.

Grigsby takes pains throughout the book to underscore the claim that the Statue of Liberty and Eiffel Tower assert their authority not simply through height, but even more importantly through “the extraction of masses of material to create hollowed out structures” (p. 19). The coda threatens to lose sight of this critical insight, insofar as the focus shifts to recent tall buildings and monumental sculptures distinguished primarily by their verticality. Current shipping technologies and the increasingly large scale of “post-Panamax” ships have, as Grigsby notes, transformed the Panama Canal into an anachronism (p. 171). Nevertheless, Panama is not the only government that remains wedded to an essentially nineteenth-century system as a key to its future economic prominence, as recent proposals for the Nicaraguan Canal and the Istanbul Canal suggest. *Colossal* is admirable in the desire to bring into dialogue varied scales of ambitious constructions, from monumental sculptures and iconic buildings to the radical reshaping of landscape on a truly cartographic scale. However, a vertically oriented,

looming object in the landscape, like the Statue of Liberty or the Eiffel Tower, diverges considerably in its perceptual and material operations from those of new infrastructural systems, like the Suez Canal and the Panama Canal, whose vast and essentially horizontal territorial scale exceeds the very possibility of “objectness.” Even in their emphasis on surface and transparency, the statue and the tower privilege building up over excision. While Grigsby’s account shows the dynamic potential of bringing these divergent operations into dialogue, the emphasis on connections and continuities threatens at points to overshadow the considerable differences between bounded object and sprawling landscape.

While it may be the case that “conflating size and modernity with Western domination has become common practice,” it seems rather more of a stretch to conclude, as Grigsby does, that “tall can certainly be considered Western and modern” (p. 8), particularly if we understand size as a relative measure. Despite the geographic breadth of Grigsby’s investigation and her emphasis on tracing transcontinental movements of engineers, artists, and ideas, modernity remains very much a distinctly European product. The repeated focus on Western modernity might be read as an attempt to follow Dipesh Chakrabarty’s call to provincialize Europe[6]. To the contrary, however, throughout Grigsby’s account, “the West” is positioned as the authoritative center and the singular source of colossal dreams of modernity exported to far-flung, peripheral terrains. Particularly given the emphasis here on technologies of reproduction, Timothy Mitchell’s insights about the place of Egypt in the nineteenth-century European imaginary and his thorough-going challenge to the idea that “the West” was ever the sole author of modernity would have been worthy of more sustained consideration.[7] Indeed, the recurrent references to “the West’s modernizing process” (p. 12) throughout *Colossal* threaten to reinforce the coherence, singularity, and seamless hegemony of what were, in fact, contingent and contested histories. Whereas Grigsby calls on us to recognize that Van Ingen’s extraordinary murals of the Calebra Cut “belong to the Panamanians who are their primary viewers” (p. 151), the Suez Canal remains, by contrast, a distinctly French product, despite the significant interventions of Ismaïl Pasha, who ruled Egypt from 1863. References to his training as an engineer in Paris and his close relationship with Napoleon III have the effect of eliding Ismaïl Pasha’s position with that of his European interlocutors, without considering whether Ismaïl Pasha’s investments in and vision of modernity were indeed the same.[8] Questions of authorship and agency remain thorny ones in this study, even as Grigsby takes pains to locate her position in relation to the book’s material by way of her own biographical connections to the sites and subjects under discussion. Ultimately, despite the admirably sustained attempt to excavate the long-ignored voices and agency of the multitude of workers tasked with realizing vast engineering endeavors, the authority of French and U.S. engineers, who remain the privileged subjects of this account, remains largely intact.

## NOTES

[1] Immanuel Kant, “Analytic of the Sublime,” *Critique of Judgment*, trans. James Creed Meredith (1911 and 1928; reprint, Oxford: Clarendon Press, 1991), p. 100.

[2] Grigsby’s preoccupation with these questions finds an echo in Peter Mason’s more recent examination of the colossal. By returning to the Greek origins of the concept, traced through the evidence of etymology and material objects, Mason comes to a similar conclusion that size is important, but not the sole determining factor. In contrast to Grigsby’s insistence on the process of making, however, Mason emphasizes the dialectics of the *kolossos*, mediating between the seen and the unseen, the living and the dead, dramatic presence and distanced inaccessibility. Peter Mason, *The Colossal: From Ancient Greece to Giacometti* (London: Reaktion Books, 2013).

[3] Rivière’s photograph likewise resonates with Walter Benjamin’s musings on the transporter bridge in Marseille, seen through Siegfried Giedion’s observations in *Bauen in Frankreich*, and akin in many

ways to the Eiffel Tower: “For in those days who besides the engineer and the proletarian had climbed the steps that alone made it possible to recognize what was new and decisive about these structures: the feeling of space?” Walter Benjamin, *The Arcades Project*, trans. Howard Eiland and Kevin McLaughlin (Cambridge, Mass.: The Belknap Press of Harvard University Press, 1999), p. 156 [F 3,5].

[4] Zeynep Çelik, *Empire, Architecture, and the City: French-Ottoman Encounters, 1830–1914* (Seattle: University of Washington Press, 2008).

[5] Tom F. Peters, *Building in the Nineteenth Century* (Cambridge, Mass.: The MIT Press, 1996), p. 344.

[6] Dipesh Chakrabarty, *Provincializing Europe: Postcolonial Thought and Historical Difference* (Princeton: Princeton University Press, 2000).

[7] See Timothy Mitchell, *Colonizing Egypt* (Berkeley: University of California, 1998); “The Stage of Modernity,” in Timothy Mitchell, ed., *Questions of Modernity* (Minneapolis: University of Minnesota Press, 2000), pp. 1-34; *Rule of Experts: Egypt, Techno-Politics, Modernity* (Berkeley: University of California, 2002).

[8] As Khaled Fahmy has noted in his examination of the reign of Mohammed Ali, Ismail Pasha’s grandfather, the tendency to ignore the Ottoman context of Egyptian politics during this period while privileging connections to Europe is widespread. Khaled Fahmy, *Mohammed Ali: From Ottoman Governor to Ruler of Egypt* (Oxford: Oneworld, 2009).

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