INTRODUCTION

CLIMATE CHANGE AND ART HISTORY

Between 1545 and 1576, a catastrophic *cocoliztli* epidemic in Mexico killed over seven million people. Similar in scale to the Black Death (1347–51) in western Europe, the epidemic—marked by hemorrhagic fever with death within three to four days—led to the decimation of over 80 percent of the indigenous population within a period of thirty years.[1] While colonial expansion was undoubtedly responsible for the exceptionally high mortality rate in mid-sixteenth-century Mexico, dendrochronology from tree rings in Durango suggests that the microbial epidemic occurred during the sixteenth-century "megadrought," one of the severest droughts in North America in the past five hundred years.[2] The lack of water and food led to rodent attacks on human settlements, instigating the fatal *cocoliztli* epidemic. While Spanish observers designated the epidemic as the "great pestilence," Nahua chroniclers not only described the calamity in great detail but also left pictorial records of victims hemorrhaging blood after becoming infected.[3] In a folio from the *Aubin Codex* (ca. 1576), a manuscript that recounts Mexica history from the twelfth century, we encounter representations of the accessions of Tenochca leaders, the 1540 Mixtón War fought against Spanish rule in New Galicia, and the 1545 epidemic, among other significant sixteenth-century events (figure I.1).[4] In retrospect, the insertion of a pictographic representation of an epidemic propelled by a series of cataclysmic droughts in a codex that records the history of Mexico offers an apropos opening through which to envisage the transterritorial configurations of an art history of the ecological crises of the sixteenth century.

The Mexican case was not unique. The Caribbean, northeast Brazil, parts of West Africa, South Africa, Ethiopia, and Southeast Asia, among other regions, also faced a series of cataclysmic droughts in this period.[5] In South Asia, famines induced by droughts took a critical turn from 1554 onward.[6] Using

1.1. *Codex Aubin*, 46v, 47r., ca. 1576. Natural pigment on European paper, 15 × 11 cm. Repository: The British Museum, London, Am2006, Drg.31219 © The Trustees of the British Museum. Photo courtesy British Museum.

contemporaneous textual records and narrative accounts that annotate the effects of environmental calamities, historians and climatologists have compiled a fairly comprehensive list of the many droughts that occurred in South Asia between 1550 and 1850.[7] Along with reports of the effects of monsoon failure in early modern texts, we can trace references to natural calamities in South Asia's visual archive as well.

Commissioned by the illustrious Mughal emperor Jalal al-Din Muhammad Akbar (1542–1605) in 1582, the *Millennial History* (Tarikh-i Alfi), for instance, includes a folio depicting prayers being offered at the Ka'ba during a disastrous drought in the reign of the Abbasid Caliph al-Mutawakkil 'Ala Allah (822–61).[8] While art historians have read the *Millennial History* in relationship to Akbar's political ideology, we can perhaps also read the allusion to the mid-ninth-century drought in the folio as a visual expression of the sovereign's concern with natural catastrophes in the first Islamic millennium (figure I.2).[9] The painting was possibly envisioned as an observation on the calamities that afflicted al-Mutawakkil's territories as a result of his persecution of both non-Muslim communities and Shi'a Muslims.[10] Conceivably, it served to distinguish al-Mutawakkil's reign from Akbar's own monarchy, defined by

an imperial strategy of *sulh-i kull*, religious reconciliation or tolerance (often translated as "universal peace"), from 1579 onward.[11] To further underscore the difference, the recto of the folio illustrates a ca. 859 earthquake in Antioch and a ninth-century hailstorm of unprecedented intensity in Egypt under the reign of the Abbasid Caliphate. Akbar's seeming preoccupation with apocalyptic natural catastrophes might have had something to do with messianic myths of the millennium as the culmination of a thousand-year epoch that began, according to the *Millennial History*, with the year of the Prophet's death. The manuscript, after all, was intended to be completed by 1592 to mark the conclusion of the first Islamic millennium. Yet the emperor's speculations on the connection between environmental disasters and governance might have been prompted by contemporaneous droughts that were afflicting his own empire.

It is likely that the folio depicting the offering of prayers during a catastrophic ninth-century drought was completed around 1595.[12] According to the *History of Akbar* (Akbarnāma), the official chronicle of the reign of Akbar, the preceding year had brought little rainfall. This prompted the emperor to dispatch officials with food provisions across the realm by way of famine relief.[13] By 1596, insufficient rainfall had thrown the "world into distress."[14] In his *Half a Tale* (Ardhakathānaka; 1641), an autobiography in verse, the poet Banarasidas, too, described the drought-induced famine of 1596 as being extremely severe.[15] According to other contemporaneous chroniclers, the droughts across the subcontinent persisted relentlessly for the next three or four years.[16] Thus, messianic fables notwithstanding, the acute interest in natural calamities in the *Millennial History* may well have been a reflection of Akbar's concern with the socio-economic impact of massive climatic upheavals that were unfolding in the Mughal realm as the Persian text was being composed.

By the 1550s, South Asia was already encountering catastrophic monsoon failures. The *History of Akbar*, for instance, records in great detail the ravages of a 1554 drought caused by the failure of monsoon.[17] Visiting Akbar's capital in Fatehpur Sikri in the 1580s, the Portuguese Jesuit priest Antonio Monserrate noted the meticulous efforts being made to conserve water. Monserrate writes, "To supply the city with water a tank has been carefully and laboriously constructed, two miles long and half a mile wide. . . . Across the end of a low-lying valley which was filled with water in the rains, (although the water afterwards drained away or dried up), a great dam was slowly built. By this means, not only was a copious supply of water assured, but the discomfort of the climate was mitigated."[18] The situation would only escalate in the seventeenth century, with millions dying from starvation during the droughts of the 1630s and the 1680s.[19]

The failure of the monsoon in South Asia from the mid-sixteenth century onward was a direct result of a global climatic upheaval that affected almost every continent. As the environmental historian Richard H. Grove and geographer George Adamson note, droughts in western India in 1423 were followed by roughly a century of pluvial increase.[20] By the mid-sixteenth century, however,

1.2. Page of disasters from *Tarikh-i Alfi*, ca. 1595. Ink and color on paper, 41 × 22.6 cm. Repository: The Cleveland Museum of Art, Dudley P. Allen Fund 1932.36.b. Photo © The Cleveland Museum of Art.

I.3. View of Vrindavan, the site in Braj where Krishna purportedly spent his youth.

expanding glaciers in the Alps had led to steadily declining temperatures in Europe.[21] While temperatures declined in Europe, this climatic epoch, now described as the Little Ice Age, witnessed an unusually high occurrence of El Niño–induced droughts in South America, Africa, and South and Southeast Asia caused by fluctuations in the sea surface temperatures that shape the global climatic system.[22] It is the effects of these droughts that Monserrate described and the *History of Akbar* chronicled. The *Millennial History*, too, had been illustrated by artists in Akbar's atelier during the droughts of the Little Ice Age.

Keeping this larger constellation of early modern transterritorial climatic upheavals in sight, *Climate Change and the Art of Devotion* turns to Braj, a pilgrimage center thirty miles north of the Mughal capital of Fatehpur Sikri and ninety miles south of India's capital, New Delhi. Today, Braj is internationally celebrated as the site where the divine Krishna is believed to have spent his youth (figure I.3). Over the years, this ninety-square-mile pilgrimage center surrounding the modern city of Mathura has inspired numerous eulogies, including George Harrison's "It Is He," composed shortly after a 1974 visit to Braj.[23] That Braj was described in 2005 by the American multimedia company National Public Radio as a "geography of heaven" perhaps only attests to the continued international fascination with a site that, according to sixteenth-century scriptural texts, is the place where Krishna lives eternally.[24]

Crucially for us, it was during a period of catastrophic climatic upheavals that devotees of Krishna traveled to Braj to "discover" the sites associated with the Hindu god's life on earth.[25] In time, an extraordinary place-oriented theology emerged in Braj, one that not only centralized the veneration of the natural environment but also perceived each stone, waterbody, and tree in the pilgrimage center as sacred and effervescent with immanent energy. Drawing on this sacramental theology, a rich visual culture that triangulated affective aesthetics, political governance, and natural-resource management also emerged in the region. This visual culture, which found concrete articulation only after the commencement of a climatic epoch that led to catastrophic droughts in north India beginning in the 1550s, is the subject of this book.

Undoubtedly, artists and patrons, before and after the sixteenth century and in and beyond South Asia, have experimented with visual and architectural form in response to climate change; this book is by no means a survey of such artistic engagements across a *longue durée*. Rather, it uses Braj as a case study to explore intersections between visual practices and large-scale transformations in the natural environment. As historians of religion have noted, there was something exceptional about the liturgy of early modern Braj, for the emphasis on embodied land in sixteenth-century theological texts—the idea that Krishna lives eternally in Braj in north India and in the transcendent realm—engendered a pilgrimage practice that privileged a sensorial experience of place.[26] Although pilgrimage across sectarian and religious boundaries certainly has a shared sensibility in relationship to sacred land, it is the liturgy of embodied place that makes Braj an exemplary case study.[27] *Climate Change and the Art of Devotion* thus moves between the creative practices based on sacramental theology that developed in early modern Braj and the transterritorial climatic fields of an ecological crisis that paralleled it. Emphasizing the interrelationship between matter and life—both human and nonhuman—in shaping art and architecture in Braj, the book foregrounds the seepages between the natural ecosystem and creative configurations. In this process, an art history of the ecological crisis now designated as the Little Ice Age comes to the fore.

The Topographies of Embodied Devotion in Braj

Visiting Mathura in ca. 400 CE, the Chinese pilgrim Faxian described the region as a thriving Buddhist pilgrimage center with over twenty monasteries and three thousand monks.[28] Although Hindu texts such as the *Bhāgavata Purāṇa* (Ancient Tales of the Lord; late ninth or early tenth century CE) designated Braj as the site where Krishna, an incarnation of Vishnu, defeated the evil serpent Kaliya, slew the demon Keshi, and danced with his devotees, monumental sandstone sculptures excavated in this region suggest that in the early centuries of the Common Era, Braj was an important Buddhist center.[29] However, Hindu and Jain sculpture found in this ninety-square-mile site indicates

I.4. Prayer hall, Chaurasi Khambha Mosque, Kaman, ca. 1200.

that temples to non-Buddhist deities were also being built in Braj in this period. Nonetheless, except for temple pillars reused in the ca. 1200 Chaurasi Khambha Mosque at Kaman, a site forty miles west of Mathura, and Assi Khambha Mosque at Mahavan, located six miles southeast of Mathura, few architectural remains have survived from before the sixteenth century (figure I.4).[30]

It was only with the construction of four colossal red-sandstone temples in the sixteenth and early seventeenth centuries that an extant artistic vocabulary of Krishna worship materialized in Braj. The theological impulse for the construction of these temples can be traced back to Chaitanya (1486–1533), the mystic from the city of Nabadwip in West Bengal, eastern India, who was responsible for creating an entirely new paradigm of Krishna worship in the early sixteenth century.[31] In pre-sixteenth-century north India, the divine Krishna was characteristically imagined as a *cakravartin* (a monarchical divinity) who was the embodiment of a warrior-king, a *kshatriya*, Vishnu's representative on earth.[32] In south India, however, with the rise of a more intimate form of worship known as *bhakti* (usually translated as "devotion"), this monarchical figure had by the eighth century already been transformed into a divine lover.[33] The new Krishna, a playful cowherd, was fundamentally unlike the divine warrior-king of north India. By the twelfth century, the love play between Krishna and his primary consort, Radha, became the focus of a rich body of Vaishnava devotional poetry (poetry devoted to the god Vishnu) in eastern India as well.[34]

In this new form, Vaishnavism articulated a more intense "emotional *bhakti*," or devotion for Krishna, that moved away from earlier orthodox practices of seeing the divine as a warrior god.[35] The symbolism of divine love, in which the devotee imagined herself or himself as either Radha or a *gopi* (the female cowherd companion of the divine couple), created a new vocabulary of religiosity within which yearning for the divine, yearning for an absent lover, became the ideal form of *bhakti*.[36] And it was Chaitanya who brought this new Vaishnavism of emotional sublimation to Braj around 1514. Chaitanya's emotional devotion was based on earlier paradigms of *bhakti* espoused by south Indian Vaishnava poets who reified emotional experience over ritualistic practice. Although ritualism was not completely rejected, followers of Chaitanya asserted that rituals were merely a mode of disciplining the mind and the body, a devotional practice called *vaidhi bhakti* (disciplined devotion) that led to the ultimate goal of immersing oneself in Krishna through *raganuga bhakti* (passionate devotion).[37] Central to this new paradigm of Chaitanya's Vaishnavism was Braj, the place where Krishna lives eternally.

Soon after Chaitanya's arrival, disciples formed a strong center of Vaishnavism in Braj. Along with the making of a new Vaishnava sect, now known as Gaudiya Vaishnavism, Chaitanya is also credited with identifying sites in Braj that he believed were associated with Krishna's life. Krishna was born in a prison in modern Mathura after his uncle, Kamsa, had imprisoned Krishna's parents.[38] On the very night of his birth, his father smuggled Krishna out of prison to an encampment—identified as the modern town of Gokul—of the herdsman Nanda, who would become his adoptive father. Nanda and his pastoral community eventually set up a new encampment in what is now Vrindavan while Krishna was growing up. A hill in modern-day Govardhan, a small

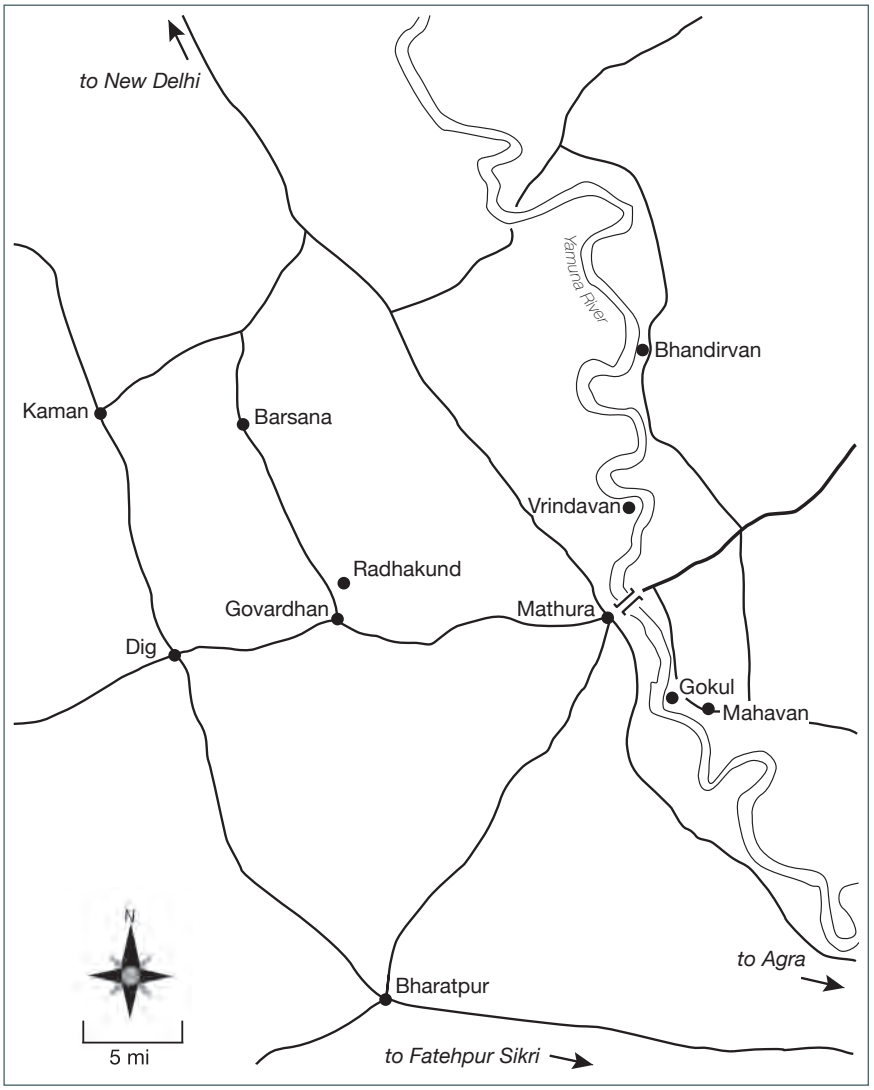
town fourteen miles west of Vrindavan, was identified as the hill that Krishna held up to protect his adoptive community from the torrential rain sent by Indra, the king of gods.

In each instance, Chaitanya identified geographical markers in the topography of the region that allowed him to claim the area as the primordial space inhabited by Krishna. Scriptural descriptions of sacred spaces were marshaled as evidence. A grove with an old banyan tree on the east bank of the Yamuna, the river that flows through the region, became the legendary site of Bhandirvan, where Krishna had brought forth water from the ground and where to this day a well is said to turn milky during the new moon.[39] Describing the sixteenth-century making of this sacred topography, the literary scholar Alan W. Entwistle writes:

> From the mid-sixteenth century onwards the number of sacred places around Mathura multiplied. Nothing was too trivial for the pioneers of the pilgrimage route; they discovered a location for every canonical episode and apocryphal incident in the life of Krishna; a sacred association was found for practically every village, pond, or landmark in the district. Apart from incorporating all kinds of natural phenomena, they also made use of such second-hand objects as ruins, mounds, and fragments of sculpture that had featured in earlier cults. So inflated was the number of places that came to light, so flimsy were the pretexts that inspired their discovery, so irrelevant were they for any kind of religious function, that many of them failed to gain recognition and can no longer be identified.[40]

In order to link these spaces to the mythological realm where Krishna dallied with Radha, Gaudiya theologians reiterated that Vajranabha, the great grandson of Krishna, had reclaimed the sacred spaces of Braj by building temples, establishing wells and tanks, and inviting Krishna's adoptive clan to return to the region.[41] Chaitanya, then, was not responsible for discovering these sites. Rather, he was responsible for reinitiating worship at sites that had already been discovered by Krishna's great grandson himself.

To fully experience the sacredness of Braj's topography marked by signs of Krishna's inhabitance, Gaudiya theologians proposed a form of circumambulation of the pilgrimage center that included worshiping the specific sites where Krishna had allegedly spent his youth. The circumambulation of Braj covered an area stretching eight miles to the southwest of modern Mathura and nearly thirty-one miles to the west and east. According to pilgrimage manuals such as the *Devotional Enjoyments of Braj* (Vrajabhaktivilāsa; 1552), the oldest extant itinerary for a Braj circumambulation, a pilgrimage to the region entailed visiting 137 sacred forests.[42] In time, Mathura (the site of Krishna's birth), Gokul (where Krishna spent his childhood), Vrindavan (where Krishna spent his



Map I.2. Major pilgrimage sites in Braj. Courtesy Ramón De Santiago.

youth), Barsana (where Radha grew up), and Govardhan (the hill that Krishna raised to protect the pastoral communities of Braj) became the key sites in this pilgrimage route (map I.2). Modern Braj as the land of Krishna worship was thus invented.

Of course, the Gaudiyas were not the only Vaishnava sect active in Braj in the sixteenth century. According to narratives presented in sectarian hagiography, Vallabha (1478–1530), a Brahmin from the pilgrimage center of Varanasi in northern India, had established a temple in Govardhan in Braj in 1519 to commemorate the discovery of a self-manifesting icon of Krishna that had

emerged from the hill.[43] A dispute in the 1570s between the Gaudiya followers of Chaitanya and the Pushtimarg (the path of grace) followers of Vallabha over the control of Govardhan suggests that Braj had become a significant pilgrimage center in north India by the mid-sixteenth century. As the Jesuit priest Monserrate, who also visited Braj, wrote, "Temples dedicated to Viznu [Vishnu] are to be found in many places in the neighbourhood [of Braj], built in spots where the silly old-wives-fables (of the Hindus) declare that he performed some action."[44] Monserrate's account indicates that Chaitanya's and Vallabha's attempts at constructing Braj as the land of Krishna had become increasingly popular. As Monserrate asserted, temples were built in the region based on "silly old-wives-fables" of Krishna's continued corporeal presence in the region.

In the early sixteenth century, the region now known as Braj was a cluster of sleepy villages; most of the monasteries and temples from the early centuries of the Common Era that travelers such as Faxian and Xuanzang described had either been destroyed or abandoned.[45] While archeological evidence indicates that both Hindu and Jain temples were intermittently built in the region in the medieval period, it was under Sher Shah Suri (ca. 1486–1545), the Afghan commander from Bengal who had seized the Mughal throne in 1540, that Braj became a nodal point in an imperial network of trade and communication with the construction of a roadway connecting Delhi and Agra through Mathura.[46] The subsequent escalation of trade led to the development of a rich mercantile center in Mathura. By the time Akbar constructed his imperial capital in Fatehpur Sikri, thirty miles from Mathura, Braj had become an important pilgrimage center, with "huge crowds of pilgrims" visiting the region.[47]

Along with the Gaudiyas and the Pushtimargis, a number of other Vaishnava sects flourished in Braj in the sixteenth century within this matrix of an emergent mercantilism. Each of these sects emphasized a particular aspect of intimate devotion as a way to immerse oneself in Krishna.[48] For the purposes of our discussion, what is important to note is this: Despite differences, in each instance, the diverse forms of Vaishnavism in Braj emphasized the importance of seeing or ritually beholding the topography of the region as key to devotional liturgy. Thus, the natural environment of Braj was given liturgical significance equal to the elaborate rituals of icon worship. For instance, although the river Yamuna that passes through Braj had already been deified as an anthropomorphic goddess in the early centuries of the Common Era, the followers of Chaitanya and Vallabha instituted a form of water worship that perceived divine presence not only in anthropomorphic icons but also in the natural form of the river as it flowed through the region. Along with the river Yamuna, rocks, trees, and even the dust of Braj came to be considered charged with immanent energy.[49] Crucially for us, this new liturgy of place materialized during the monsoon failures of the Little Ice Age, which unsettled any conception of nature as pristine and bountiful.

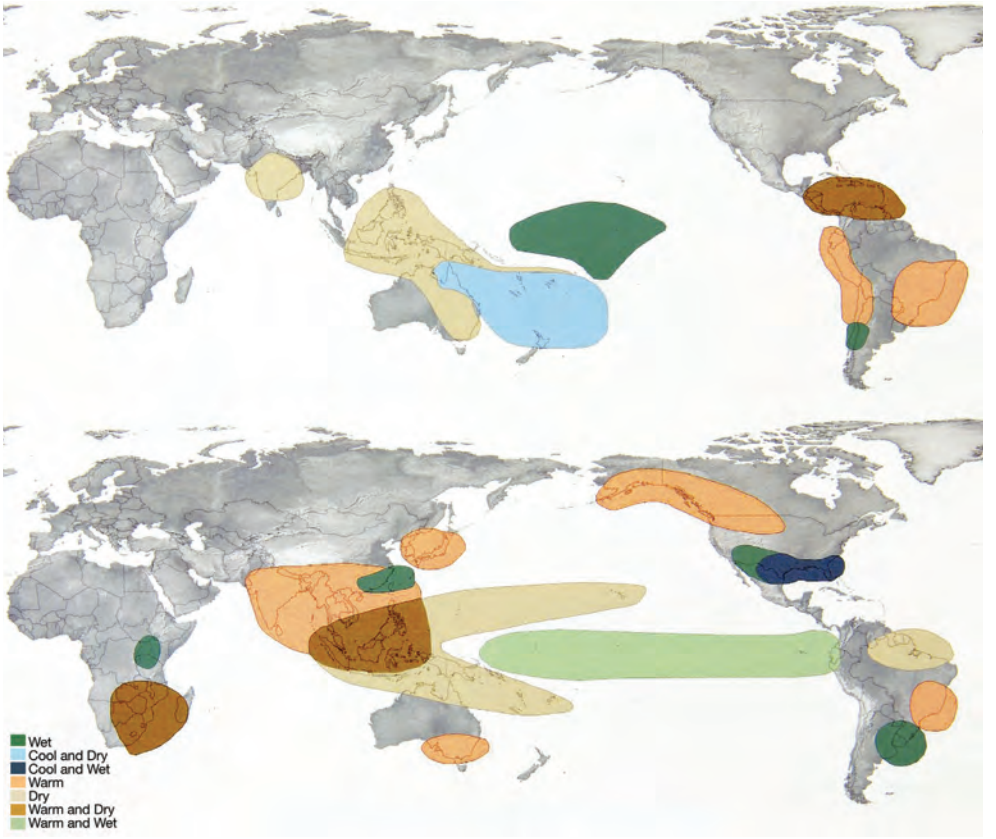
The Little Ice Age

The Little Ice Age is crucial to our story. Based on observations of the glaciers of the Sierra Nevada in California, the geologist François E. Matthes coined the term "Little Ice Age" in 1939 to describe the four-thousand-year period of dramatic glacial advances and retreats during the Late Holocene.[50] In the 1970s, climatologists, geographers, and glaciologists contended that the climatic epoch of the Little Ice Age should more appropriately designate the period between 1550 and 1850, when mountain glaciers expanded to their greatest extent in response to diminishing solar output, changes in atmospheric circulation, and massive volcanic activity after the Medieval Warm Period (ca. 900–1300 CE).[51] In the subsequent decades, paleoclimatologists mobilized proxy data gained from tree rings, cave deposits, pollen samples, and ice cores to demonstrate that temperatures in Europe had indeed dropped below the thousand-year average between 1000 and 2000 CE.[52] The Little Ice Age garnered a similar degree of attention from historians as well, who examined administrative archives, memoirs, and travel accounts to recover the social, political, and economic histories of this climatic epoch.[53] It was Fernand Braudel's *La Méditerranée*, the tour de force history of the Mediterranean world during the reign of Philip II, that laid the groundwork for a reexamination of the political and economic histories of early modern Europe in relation to large-scale environmental transformations.[54]

The cultural imprints of the Little Ice Age have received some attention in recent years. Consider, for instance, the climatologist Michael E. Mann's 2002 account:

> In the Chamonix valley near Mont Blanc, France, numerous farms and villages were lost to the advancing front of a nearby mountain glacier. The damage was so threatening that the villagers summoned the Bishop of Geneva to perform an exorcism of the dark forces presumed responsible (this procedure, as for most human attempts at weather modification, does not appear to have been successful). Such societal threats were common during the late 17th and early 18th centuries, as many glaciers expanded well beyond their previous historical limits. Colder conditions combined with altered patterns of atmospheric circulation, appear to be tied to the prevalent crop failures in the more northern areas of Europe of the time. There are widespread reports of famine, disease, and increased child mortality in Europe during the 17th–19th century that are probably related, at least in part, to colder temperatures and altered weather conditions.[55]

Reading the impact of environmental transformations on human life, Mann, among other scholars, has offered a model for narrating a history that takes into account the intersections between the biophysical world and the world of knowledge, culture, and power, all of which form integral components of the



Map I.3. Global impact of the El Niño Southern Oscillation: June–August patterns (top); December–February patterns (bottom). Courtesy NOAA Climate.gov.

new interdisciplinary field called environmental history.[56] Without doubt, this environmental opening within the humanities more broadly has had paradigmatic effects. Yet internal to the classification of the Little Ice Age is embedded an Alpinocentrism (read, Eurocentrism) that both names and designates an entire climatic period in world history based on declining temperatures in Europe. The effects of the climatic upheavals were unequivocally global. But its manifestation in South and Southeast Asia, Africa, and coastal South America was distinctly dissonant from that of Europe.

The Little Ice Age witnessed an abnormally high occurrence of the warm phase of the El Niño Southern Oscillation in the central and east-central equatorial Pacific coastline off South America.[57] Associated with a band of warm ocean water that is accompanied by high air pressure in the western Pacific and low air pressure in the eastern Pacific, the El Niño Southern Oscillation leads to significant monsoon failures in Africa, South Asia, and Southeast Asia (map I.3). Archival records reveal that between the 1550s and the 1850s—in the

period of the Little Ice Age—the number of global El Niño events were unprecedented. Paleometeorological reconstructions from Peru, for instance, reveal that during the Little Ice Age, around ninety-seven El Niño incidents occurred, which led to droughts as far as West Africa, South Asia, and Southeast Asia.[58] Thus, from a different geo-perspective, the Little Ice Age may well be designated as the age of droughts. For even as the epoch remains identified as a period of decreasing temperature in Europe, much of the world experienced an increase in temperature and droughts. The 1596 El Niño on the Pacific coast, for instance, led to devastating droughts in South and Southeast Asia.[59] This is the same drought that the poet Banarasidas, then based in the north Indian city of Jaunpur, would describe as having pushed the world into a condition of acute suffering (*jagat behal*—"world suffering"—in Banarasidas' words).[60] As we have seen, a similar sentiment found expression in the *History of Akbar*.

Nonetheless, glacialization and falling temperatures in Europe and El Niño–induced droughts in other parts of the world were fundamentally interconnected by the North Atlantic Oscillation, the fluctuations in the atmospheric pressure at sea level between Iceland and the Azores. This led to extreme weather throughout the tropical zones, as research conducted by the climatologist Jacob A. B. Bjerknes, among others, demonstrates.[61] Indeed, this climatic configuration remains at play even today. Based on computed atmospheric models, Richard Grove and the geographer John Chappell, for instance, have shown that the North Atlantic Oscillation and the Southern Oscillation have remained strongly correlated in the last 180 years.[62] Thus, negative phases of the North Atlantic Oscillation statistically tend to precede negative El Niño phases of the Southern Oscillation index. Connecting the hydroclimatic variabilities of the Southern Oscillation to the North Atlantic Oscillation, we also begin to see the Little Ice Age as a global ecological crisis.

The Vaishnava actors in my narrative were almost certainly unacquainted with the sweeping climatic transformations that were occurring concurrently in the Americas, Southeast Asia, Africa, and Europe in this period. Thus, their artistic responses to monsoon failures, droughts, deforestation, and climate change were specifically embedded within the ecumenical world of Braj. As early as 1982, the climatologist Hubert H. Lamb observed that seventeenth-century texts suggest that there were more monsoon failures in South Asia during that period than during the twentieth century.[63] Art historians are yet to mine this invaluable data. But histories of the Little Ice Age in other parts of the world offer insightful paradigms to locate linkages between climate change and economic and social transformations.[64] Building on this recent scholarship, *Climate Change and the Art of Devotion* brings environmental humanities into conversation with South Asia's early modern and colonial art history by recovering artistic practices that emerged from rhizomatic entanglements between matter and life, shaped, as it were, by the global flow of water and air.

Eco Art History: Genealogies and Approaches

A genealogy for a mode of writing an art history that is attentive to the forces of the earth can be traced back to the very formation of the discipline in the eighteenth century. In 1764, the German art historian Johann J. Winckelmann declared in his foundational *History of Art of Antiquity* (Geschichte der Kunst des Altertums) that the preeminence of ancient Greek art can be traced, in part, to the temperate climate of the region.[65] The environmental determinism inherent in Winckelmann's eighteenth-century celebration of Hellenic culture—the idea that the temperate climate of southern Europe produced superior art—was soon adopted by European writers such as Karl A. Ehrensvärd.[66] Also developed in eighteenth- and nineteenth-century art history was the conceptual obverse—the notion that climate was at the root of the inferior quality of art and architecture produced in the colonies. The climatic differences between temperate and tropical zones—that is, between Europe and its colonies—was consequently seen through a lens of a relativism that by the nineteenth century was reinforced by theories of eugenics and evolutionist race science.[67] By the 1950s and 1960s, however, a more nuanced history of art perceptive to the natural world had developed. Millard Meiss, for instance, investigated the role of the Black Death in fundamentally transforming Sienese and Florentine art, while George Kubler provocatively suggested that rather than a history of style based on bio-evolutionary models, the flow of energy from and between objects offered a better system with which to comprehend aesthetic transmissions.[68] Such studies were admittedly few and far between. Only in the 2000s did the contrapuntal pressure of postcolonial ecophilosophy and vital materialism profoundly transform the disciplinary horizons of art history.

In retrospect, 2009 and 2010 emerge as key years in this historiography, when Dipesh Chakrabarty's "The Climate of History" and Jane Bennett's book on vibrant matter were published concurrently.[69] This was perhaps a coincidence. Nonetheless, the temporal convergence was symptomatic of the intellectual debates that were unfolding across disciplines as the looming threat of anthropogenic global warming became more and more tangible. By 2008, as part of the broadening consensus that we were crossing a tipping point at an accelerated rate, the Stratigraphy Commission of the Geological Society of London had already considered a proposal to make the Anthropocene—the current geological epoch, viewed as the period in which human activity has been the dominant force on the environment—a formal unit of geological-epoch divisions.[70] It is in this context that Chakrabarty proposed that the human species now exercises a geological force on the planet on the scale of volcanoes and tectonic plates, while Bennett, responding to renewed attention to "encounters between people-materialities and thing-materialities," developed a theory of vibrant matter that erases distinctions between living beings

and matter in our embattled Anthropocene present.[71] Despite intense debates in the climate sciences regarding the precise historical moment that instigated the Anthropocene epoch, the implications of such a theory of things on a discipline that focuses on material culture was profound.[72]

In parallel, art produced after the Industrial Revolution—during the so-called Great Acceleration, with its unprecedented use of fossil fuels—was becoming a crucial arena for locating an ecological aesthetics in and of the Anthropocene. As the art historian Alan C. Braddock notes, "Since around 1990, scholars have regularly addressed the environmental significance of contemporary art. Rare, however, are ecocritical studies investigating art before the 1960s—before modern environmentalism made ecology a cause célèbre."[73] While a number of recent books have pushed the temporal frames of ecocritical analyses to emphasize the relationship between the human species and the natural environment in the late eighteenth and nineteenth centuries, art history, for the most part, is yet to engage with the period preceding modernity.[74] Writing on Claude Monet's 1873 *Impression: Sun Rising* in relation to industrialization in Normandy, Nicholas Mirzoeff, for instance, notes that the pre-Anthropocene—the "10,000 years of the preceding Holocene"—was a period characterized by "unusually stable climatic conditions that made human agriculture and civilization possible."[75]

And herein lies a critical conundrum. A plethora of divergent intellectual and material practices preceding the Industrial Revolution have come to be cordoned off within constructions of both civilizational and ecological plenitude. There is, of course, an epistemic difference between art produced under the menacing shadows of the expanding glaciers of the Little Ice Age and art produced under the existential threat imposed by humans themselves in the epoch of the Anthropocene. For while the Little Ice Age was induced by geological forces, the Anthropocene was prompted by anthropogenic forces, albeit on the scale of the geological. In terms of a creative or artistic response to large-scale environmental transformations, an art history of the Little Ice Age, then, provides a somewhat different perspective to the genealogies of ecological aesthetics, as we will see.

In the context of the history of art and architecture in South Asia, we can go back to as early as 2200 BCE to envisage the intersection between worldwide environmental catastrophes and large-scale transformations in art, architecture, and urban patterns. Paleohydrological evidence reveals that the Harappan civilization, the urban cultures that developed on the plains of the Indus Valley of Pakistan and northwestern India in the middle of the third millennium BCE, declined between approximately 9000 and 3000 cal BP, coincident with decreasing western equatorial Pacific sea-surface temperature and an increasing frequency and amplitude of El Niño Southern Oscillation events. While social instabilities, Aryan invasions, and weakened trade have been attributed as possible causes that led to the decline of Harappan urban

I.5. Arjuna's penance and the descent of the Ganga. Mamallapuram, Tamil Nadu, seventh century CE. Relief on granite boulder, 30 m × 15 m. Photo courtesy John C. Huntington, courtesy the Huntington Photographic Archive of Buddhist and Asian Art.

cultures, recent paleoclimatological studies reveal that hydrological calamities contributed significantly to the culmination of this civilization.[76]

But alongside civilizations that emerged (or dissolved) as a result of ecological transformations, artists, architects, and patrons in South Asia have long mobilized the forces of the natural world to envisage aesthetic systems. In the seventh century, the Pallava rulers of south India, for instance, commissioned a colossal 30 × 15 m relief depicting the descent of the Ganga on granite boulders facing the Bay of Bengal at Mamallapuram in Tamil Nadu (figure I.5). The perpendicular natural cleft between two boulders was transformed into the river Ganga, as water cascaded from a cistern on the summit of the rock.[77] From an eco-art historical perspective, we can see how the Pallavas mobilized the hydrological dynamism of flowing water to enunciate an art practice in the seventh century. The coalescence of flowing water and the mythological narrative of the river's descent to earth in the relief at Mamallapuram foregrounds premodern aesthetic systems that fundamentally interwove natural and cultural worlds. Much later, emperors such as Zahir al-Din Muhammad

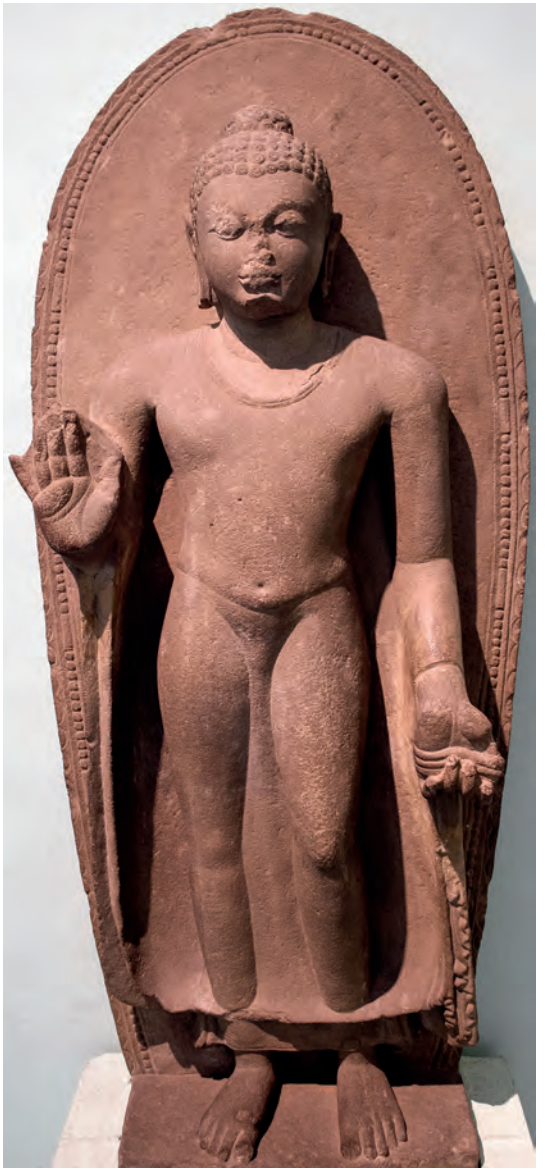
Babur (1483–1530), the founder of the Mughal dynasty, commissioned gardens, water pavilions, and reservoirs to both conserve water and to embellish imperial land.

Scholars of South Asian art have also been acutely aware of the natural environment and its impact on aesthetic practices from the very onset of the discipline in the colony. Ananda K. Coomaraswamy, the preeminent Sri Lankan philosopher and art historian who began his career as geologist, for instance, employed the nature-oriented aesthetics of art and architecture in South Asia as an opening to confront the logocentric rationalism of European metropolitan art history. As early as 1934, Coomaraswamy outlined the equivalences between medieval (pre-Enlightenment) European and South Asian art to suggest that the essence of art was "to bring back into order the multiplicity of Nature."[78] Coomaraswamy's interpretations, however, remained arranged within fantastic frames of speculative metaphysics. But it is in the writings of the Moravian-Austrian art historian Stella Kramrisch, who arrived in India in 1921 after completing a doctoral dissertation on early Buddhist art at the University of Vienna, that we find a more granular account of the intersections among theology, art practice, and an aesthetics of the natural world.

Rejecting the master narrative of colonial art history, Kramrisch proposed that fifth-century Buddhist sculpture was an outcome of transubstantiation that occurred when the vegetal migrated into the body (figure I.6). Noting the lack of botanical ornamentation in late fifth-century Buddhist sculpture, Kramrisch wrote, "The body becomes plant-like in swaying rhythm and plasticity; it is the vessel of the movement of the physical and of inner life. . . . The human body . . . does not stand for physical appearance. It is the form of movement of life."[79] Indeed, unlike earlier sculptures of the Buddha from Mathura with elaborately ornamented nimbuses with radiating lotus petals, effusive floral scrolls, garlands, and rosettes, late fifth-century sculptures of the Buddha were relatively unembellished. The body, Kramrisch then suggested, had become plant life, the human and the vegetal irrevocably intertwined into one body pulsating with animated energy. Moving away from the logocentrism of earlier colonial writing, Kramrisch thus explored an art history that did not measure the sculpted form in human terms.

Might such a resignification of the human body as plant life—a direct reversal of colonial logocentrism—provide an entry point for considering deeper histories of an eco art history? Might we be able to mobilize Kramrisch's schema to alter the symbiotic relationship between the natural world and human life beyond the logocentric logic of post-Enlightenment reason, with its emphasis on scientific empiricism?

In this book, the underscoring of geoaesthetics as a critical frame serves to engage tractions between the ecological and the aesthetic. The term geoaesthetics has emerged only recently in scholarly discourse. In 2004, the American philosopher Gary Shapiro used the term to designate 1970s land art and



1.6. Standing Buddha from Sarnath, second half of the fifth century CE. Sandstone, 127 cm (height). Repository: National Museum, New Delhi, 59.527/3.

environmental art as a "form of thinking that works between the territory and the earth by opening up zones of indeterminacy."[80] From then on, the concept-term *geoaesthetics* has received significant attention in the study of twentieth-century art and architecture. Indeed, in the last few years, conferences, curatorial projects, and edited volumes have investigated the political imperatives of geoaesthetics in our ecologically besieged present.[81]

The intellectual genealogies of the term, however, take us back to Gilles Deleuze and Félix Guattari's geophilosophy as a philosophy from the earth.

Returning to the geological thought of Friedrich Nietzsche, Deleuze and Guattari demarcated geophilosophy as conceptually analogous to Braudel's geohistory, that is, the history of the human species' relation with the natural environment charted through the ebbs and flows of the Mediterranean.[82] But the trajectory from Braudel's geohistory through Deleuze and Guattari's geophilosophy to geoaesthetics brings to the fore the role of art and architecture in shaping a relational aesthetic philosophy. Defining geoaesthetics as an approach within art history, *Climate Change and the Art of Devotion* addresses artistic and architectural practices that were shaped through human interaction with geographical, geological, botanical, zoological, mineralogical, astronomical, and climatic formations. Moving from sixteenth-century illustrated manuscripts that were commissioned when the site was established to nineteenth-century architecture, the book documents and narrates the key moments of artistic and architectural innovations in Braj.

Ecological Clusters in the Land of Krishna

The natural topography of Braj was constituted in liturgy as embodied ecological clusters. In fidelity to these topographic constellations, this book is organized around four elemental themes: water (the theophanic river Yamuna that traverses the region); land (Govardhan hill that Krishna miraculously lifted); forest (the sacred groves of Braj where Krishna roamed with his devotees); and ether (*akasa*, the natural element that holds together the principal components of Braj's sacred ecosystem).

Water was central to artistic expression during the calamitous droughts that commenced with the onset of the Little Ice Age. Although pre-sixteenth-century ritualistic norms mandated haptic and gustatory absorption as primary forms of engagement with sacred water, by the mid-sixteenth century, liturgical texts in Braj were asserting that beholding the theophanic presence of the river Yamuna as it flowed through the pilgrimage site was sufficient for attaining ritual purity. The vision-centrism of theology generated new systems of architecture and painting that emphasized the liquescence of water by framing a view of the river Yamuna. This hydroaesthetics of art and architecture developed in an era marked by the death of five million people from El Niño–induced droughts.

Land encompasses the alchemic, talismanic, and agentive nature of stone. In sixteenth-century texts, Govardhan, a sandstone ridge in Braj rich in feldspar, mica, calcite, and opaque minerals, was reconfigured as an embodied lithic form of Krishna himself. The vibrant materiality of this specific ridge was linked to the materiality of temples constructed with the same sandstone, along with the emergence of a new temple style in Braj that was based on conceptualizations of the earth as divine geobody, a living being that bled if wounded.

Forests had been extensively reclaimed for agriculture by the 1750s in Braj, drastically transforming the region's fragile ecosystem. How did the topophilic theology of venerating natural phenomena contend with this sweeping alteration of the agrolandscape? Eighteenth-century paintings and temple architecture reveal the unfolding of a vegetal aesthetic of plants, vines, and flowers in Braj. As deforestation accelerated in the region, the surfaces of paintings and temple façades became more elaborately ornamented with floral imagery. Here, ornament was not merely decorative or allegorical but an episteme that connected lived practices with visual form. Eighteenth-century architecture embellished with extravagant vegetal motifs also inaugurated a design idiom that continued well into the nineteenth century, reaffirming the efficacy of this new vegetal aesthetics in a larger north Indian world.

Ether, the fifth element in Vaishnava philosophy, connects the infinitesimal with the galactic. Within it, the materiality of rivers, hills, and forests exist in a state of multi-vectored fluidity. Completed immediately after the last droughts of the Little Ice Age, the natural element of ether (*akasa*) is central to the 1868 Shahji Temple in Vrindavan. Citing British neoclassical architecture, earlier Islamic form, and Baroque columns made famous by Bernini's bronze baldachin in St. Peter's Basilica in Rome, the 1868 temple ushers in yet another architectural paradigm that dialogically connects colonial cultural ecologies to the ecologies of effervescent cosmic matter. Intersections between the local and the global enables a visualization of *akasa* as an architectural praxis situated in space but expansive in vision.

After the catastrophes of the Little Ice Age, through the late nineteenth and early twentieth centuries, colonial photography, pilgrimage maps, and votive paintings of Braj reveal further interplay between matter and life. As a transcript of the aesthetics of such entanglements, geoaesthetics unmoors art history's epistemological scope, given the anthropocentric exceptionalism that is allocated by art history to the conceptual category called the human. Eco art history is the name of that which we stand to gain from this unmooring.

ONE | WATER

The river Sarasvati purifies one after three days. The river Narmada purifies one after seven weeks. The Ganga purifies one immediately. Yamuna purifies one who beholds it.—*Haribhaktivilāsa* (Performance of Devotion to Hari)

Cutting diagonally across the picture plane, the blue river flows beyond the border of the painting to a space elsewhere, a space that is conceivably beyond representation (figure 1.1). It is the transversal movement of the fleeting diagonal, more than the height of the vertical or the repose of the horizontal, that allows for the precipitous passage of the river through Braj, the bucolic site where the divine Krishna is believed to have spent his youth. A visual translation of a verse from the *Bhāgavata Purāṇa*, a text that became central to sixteenth-century Vaishnava praxis in Braj, the painting illustrates Krishna's amorous play in the river Yamuna with the cowherd women (*gopis*) of Braj devoted to the lord.[1] Tired from the pleasures of love, Krishna—who has lost all inhibitions—enters the water of the flowing river with his beloved devotees. Thus begins the *jal krida*, the water sport. "With looks of love, the young women around Him laughed and splashed Him vigorously, O King! Worshipped with showers of *kusuma* flowers by the celestial beings in their aerial chariots, Kṛṣṇa disported himself like an elephant in *līlā* [play] pastimes, even though he is content within himself."[2] Surrounded by cowherd women, the bejeweled body of Krishna flows with the turbulent undercurrent of the river toward an arena beyond the yellow margin that marks the limit of the painting, the limit of representation itself.

The artists' deliberate transgression of the bounded borders of the folio has not gone unnoticed by art history.[3] The paintings in the ca. 1560–70 manuscript, now known as the Isarda *Bhāgavata Purāṇa*, have become, for art historians, exemplary of a new visual language that emerged in response to pictorial conventions developed in the imperial atelier under the Mughal emperor Akbar.

1.1. Krishna's water sport, Isarda *Bhāgavata Purāṇa*, ca. 1560–70. Opaque watercolor on paper, 18.8 × 25.2 cm. Repository: The San Diego Museum of Art, Edwin Binney 3rd Collection, 1990.586. Photo courtesy The San Diego Museum of Art.

The innovative use of delicate white lines to demarcate the turbulent waves of flowing water and the disregard for pictorial margins in the manuscript also appear in contemporaneous paintings produced in the Mughal court.[4] The Isarda *Bhāgavata*, then, becomes decisive for mapping the sweeping transformations in painterly cultures in South Asia that ensued in the sixteenth century with the establishment of the Mughal empire. Indeed, a number of folios from this manuscript seem to have used an analogous visual strategy, one that was organized around highlighting the aqueous dynamism of flowing water while accentuating the river within the picture plane.[5]

Yet the act of reading this new imaginative technique of representing water solely as an outcome of Central Asian Timurid aesthetic regimes introduced by the Mughals in north India also serves to idealize the landscape as a system of representation that occludes linkages between the natural environment and human action upon it. The Isarda *Bhāgavata*, however, is not a closed discourse, significant only for the history of the art of the Indian subcontinent.

Rather, the act of delineating the volatility of water in the manuscript was materialized within a matrix that encompassed aesthetic practices, natural-resource management, and environmental catastrophes that occurred with the inception of the Little Ice Age. Alongside the climatic upheavals of the Little Ice Age, the mid-sixteenth century also saw the emergence of a new theology in Braj based on venerating the natural environment. Flowing beyond the confines of paper, the river Yamuna in the Isarda folio thus allowed for the formation of a visual horizon that highlighted seeing the fluid materiality of water as an aesthetic experience. Undoubtedly, the rendering of the river in the folio had its visual genealogies in the painterly cultures of the Mughal court. But at the same time, the painting offers critical perspectives on an incipient mid-sixteenth-century opticality that underscored the act of seeing water in an age of massive droughts.

The political, economic, and cultural significance of water has certainly received significant attention in recent years. From Braudel's foundational *La Méditerranée* to more recent histories that have emphasized the inherent connectedness that constituted the early modern period, the fluidity of water as a liquid that links landmasses through trade and migration has become fundamental in shaping the horizons of global histories.[6] At the same time, scholars have studied riparian architecture, canals, port cities, hydrological projects, drainage systems, aqueducts, fountains, gardens, water vessels, and scientific experiments that have harnessed the force of water.[7] Recent scholarship has further examined the history of watercolor as a medium that employs the volatility of water as substance or the ecological consciousness in contemporary environmental art that takes water as its site of experimentation.[8]

But when we bring together the visual and the natural environment, what did it mean to see water? In sixteenth-century north India, theoretical developments and experimentations in the field of vision led to the growing popularization of spectacles, while encyclopedic treatises composed in the Mughal court, for instance Muhammad Fazil Miskin Samarqandi's *Pearls of Sciences Composed for Humayun* (Jawāhir ul-'Ulūm Hūmāyūni; ca. 1539), deliberated on optics and alchemy.[9] Within the sixteenth-century ecumenical worlds of Vaishnava piety, the act of seeing accrued further philosophical and theological density. The Vaishnava reformer Chaitanya's disciple Rupa Goswami (ca. 1489–ca. 1564) thus writes in *The Ocean of the Essence of Devotional Rasa* (Bhaktirasāmṛtasindhu; 1541), "O Lord, regarding even the knowers of Brahman, can the experience of the highest Self possibly be higher or more beneficial than that intense delight caused by a direct vision of you?"[10]

The vision-centric religious aesthetic proposed by Vaishnava theologians such as Rupa Goswami in Braj emerged from a reformulation of the theory of *rasa* (a mode of experiencing aesthetic enjoyment) to articulate a new devotional culture based on the experience of loving Krishna.[11] According to sixteenth-century Vaishnava texts, the act of "seeing" the divine Krishna had the power

to fundamentally transform the beholder. The popularization of a new form of Vaishnavism in Braj in this period thus created a vocabulary of religiosity in which yearning for Krishna as a lover became the ideal form of *bhakti*, or devotion. Hence, in her lyrical songs of devotion, Mirabai (fl. 1516–46), a *bhakti* poet and Krishna devotee who is believed to have visited Braj, wrote:

> *Friend, my eyes have been hit by the arrow of love.*
> His sweet form has taken over my thoughts and pierced my heart to the depths.
> *Friend, my eyes are acting so strangely . . .*
> How long have I been standing here in this house, gazing down the road?
> *Friend, my eyes have been hit by the arrow of love.*
> The dear Dark Lover [Krishna] is my breath,
> The root, the source of my life.
> *Friend, my eyes are acting so strangely . . .*
> Mira is sold into the hands of the Mountain Bearer [Krishna].
> People say she has lost her mind.[12]

Moving away from earlier orthodox practices of venerating Krishna as a supreme warrior god, this new liturgy of *bhakti* allowed for the articulation of an emotional devotion centered on vision.

Theologians proposed that faith (*sraddha*) and ritualistic practice (*sadhana*) would eventually allow the devotee to directly perceive (*sakshat*) Krishna to attain transcendental bliss. As a religious aesthete, the devotee of Krishna was thus expected to inculcate the erotic love (*sringara rasa*) of the cowherd women through play with Krishna in the groves and forests of Braj. Only after attaining bliss in the worldly Braj could the devotee access transcendent Braj as a partaker in perpetual play, or *lila*, with the Supreme Being. Vaishnava theologians delineated four forms through which the Supreme Being appears in this world as embodied: in scriptural texts such as the *Bhāgavata Purāṇa*, through the aural presence of Krishna's name uttered, in the geographic space of Braj, and in the icon worshipped in the temple.[13]

It appears that the development of this new Vaishnava theology in Braj from the mid-sixteenth century onward, alongside the production of remarkable illustrated manuscripts narrating Krishna's life and large-scale riparian religious architecture, paralleled the increasing frequency of El Niño–induced droughts in the region. With the climatic phenomenon of the Little Ice Age, the climate of the middle latitudes had generally become harsher by the mid-sixteenth century.[14] In West Africa, the Sahel, the dry frontier of the Saharan fringe, pushed southward in the sixteenth and the seventeenth centuries, causing a series of calamitous droughts.[15] In Mexico, catastrophic droughts of great intensity occurred between 1545 and 1580.[16] From 1554 onward, the frequency of droughts increased in South Asia, with the worst catastrophe ensuing in 1630, when five million people died.[17] Traveling to Agra from western India

in November 1630, the Cornish merchant Peter Mundy wrote, "[A]ll the high way was strowed with dead people, Our noses never free of the Stinck of them, especially about Townes; for they dragg them out by the heeles starke naked, of all ages and sexes, till they are out of the gates, and there they are lefte, soe that the way is halfe barred upp."[18] Thus, in the wake of a climatic catastrophe that severely unsettled the political, religious, and cultural milieu of north India, the act of seeing water took on a specific symbolic and aesthetic meaning.

The sweeping rearrangement of both the natural and the built environment in early modern Braj consequently provides a distinct perspective to the reciprocal relationship between climate change and artistic practice. Emerging from the interstices of creative interventions, religious cultures, and extensive environmental transformation, paintings and architecture produced in Braj also present us with an exemplary site to explore an ideation of an eco art history. In such an ideation, the act of seeing water becomes the crucial link that connects localized liturgical aesthetics with an expanded transterritorial arena of water scarcity and drought. Natural form—rising water, changing banks, altering flows, water currents, riparian habitat—was then not just a system of the environment but an affective text performing a theological and aesthetic function. Within such a configuration, the river was neither a natural given nor purely a construction of human experience. Rather, as non-different from the unmanifest world where Krishna plays eternally, the river was a liminal arena that was simultaneously manifest (*prakata*, worldly) and unmanifest (*aprakata*, transcendent). Conceivably, it is in part this theological coterminity of the manifest and the unmanifest, the visible and the invisible, that led the artists of the Isarda *Bhāgavata* to trace the journey of the river Yamuna diagonally across the picture plane to a place elsewhere, the *aprakata* beyond presence and representation.

One could then contend that the aesthetic experience of seeing the flowing Yamuna in Braj allowed the viewer-devotee to construe an immersive relation between her or his body, physical land, and ideational space. This particular kind of representational and architectural convention can best be described as a form of hydroaesthetics. From the depiction of the river Yamuna in a single folio of the Isarda *Bhāgavata Purāṇa* to monumental riparian architecture, hydroaesthetics, in this specific instance, intrinsically interconnected art and architecture practices to an expanded, nonhuman, transterritorial arena of water scarcity and drought. This interconnectedness opens up new passages in art history, ecological passages that bring to the forefront a reciprocal relationship between climate change and acts of visualizing water.

Hydroaesthetics in the Little Ice Age, ca. 1560–1570

Discovered in the collection of the landed estate of Isarda, sixty miles south of the city of Jaipur in contemporary Rajasthan, the ca. 1560–70 *Bhāgavata Purāṇa*

is undeniably a significant manuscript in the history of painting in South Asia. Produced in the Mathura-Agra region, the twenty-three extant folios from the manuscript depict events from Krishna's life, which were narrated in the *Bhāgavata Purāṇa*'s tenth book.[19] Crucially, paintings in the manuscript, when read alongside contemporaneous riparian architecture and Vaishnava aesthetics, provide a deeper history of seeing water as a form of beholding that foregrounds the riverscape within a world of affective aesthetics and the large-scale rearrangement of the natural environment that occurred alongside the severe droughts that ensued in 1554.

Although coeval, there is no evidence that these two moments—one environmental and the other artistic—are causally connected. Conceivably, it was water as affect—that is, the connection between droughts in South Asia and the affective responses to it—that intimately bound them. Indeed, in the wake of a succession of extensive droughts that occurred with the commencing of the Little Ice Age, Vishram Ghat in Mathura, the principal ghat for pilgrimage in Braj, became the locus of a number of architecture projects that made seeing the flowing Yamuna central to an appreciation of water (figure 1.2). Ghats, or platforms beside waterbodies with steps that provide access to the water, are characteristically built for domestic use. In pilgrimage sites such as Braj, ghats are also used for liturgical purposes. Given the powerful symbolism of the river Yamuna as the daughter of the sun god Surya, Vishram Ghat in Mathura, a town that had become the epicenter of pilgrimage in Braj, had already functioned as a site for solar worship prior to the thirteenth century.[20] Pre-sixteenth-century architecture at Vishram Ghat, however, is not extant. But sixteenth-century pilgrimage manuals assert that this ghat was the precise location where Krishna rested after killing his evil uncle Kamsa;[21] hence the name Vishram Ghat, the "ghat of rest."

From other accounts, we learn that Sikandar Lodi, the Afghan ruler of Delhi from 1489 to 1517, had allegedly erected a mechanical contraption to prevent pilgrims from performing customary rituals at Vishram Ghat.[22] Seventeenth-century sectarian literature narrates that the device erected by Sikandar Lodi would result in pilgrims sprouting a beard when they attempted to perform rituals there. Other narratives insinuate that Sikandar Lodi had assembled a machine at Vishram Ghat that automatically circumcised Hindus who went there. In retaliation, the Vaishnava reformer Vallabha drew a cosmogram (*yantra*) on a piece of paper and gave it to his followers, asking them to hang it above one of the main gates at Sikandar Lodi's capital in Delhi. As a result of the spell, Muslims who passed under the gate lost their beards. A repentant Sikandar Lodi then removed the contraption. Veracity notwithstanding, such accounts suggest that the control of Mathura, an urban center located at the entrance to the fertile Gangetic plains, was vital for control over the riverine system, which by this time had become crucial for the trade route connecting northern and western India to Bengal and beyond.[23]

1.2. Vishram Ghat, Mathura.

It was also during the reign of Sikander Lodi that Vaishnava reformers such as Chaitanya and Vallabha arrived in Mathura. Sectarian literature informs us that after arriving in Braj in 1514, Chaitanya embarked on a mission to discover the sacred sites of Braj from Vishram Ghat itself. He embraced trees and creepers, collapsed in ecstasy on seeing embodied land, and leaped into the dark blue waters of the Yamuna, imagining Krishna perpetually playing in the river.[24] The performative piety of Chaitanya's pilgrimage was thus centered on a bodily experience of natural phenomena. This mode of experiencing the topos, however, had resonances in the late ninth- or early tenth-century *Bhāgavata Purāṇa*, where Uddhava, Krishna's closest companion, took aesthetic pleasure in seeing the Yamuna, the forests, and the blossoming trees of Braj.[25] Uddhava then wished to be reborn as a creeper in Braj so that the feet of devotees and the dust of Braj would cover him in rapturous love. In this sense, the sixteenth-century reclaiming of Vishram Ghat during Sikandar Lodi's reign was grounded on a theological claim to space as embodied.

Very soon, Vaishnava devotees, especially the Kachhwaha rulers from the kingdom of Amber in contemporary Rajasthan, built a series of structures at

1.3. Sati Burj, Mathura, 1570.

Vishram Ghat.[26] The only extant structure from this period, however, is Sati Burj, a 16.7-meter quadrangular tower constructed by Bhagwantdas (r. 1573/4–89), the ruler of Amber, in 1570 (figure 1.3). Bhagwantdas was not only one of Akbar's closest allies but the patron of a key temple in Braj.[27] Constructed in red sandstone, the same material concurrently being used by Akbar to build Mughal capitals in Agra (1565–ca. 1571) and Fatehpur Sikri (ca. 1571–85), the monumental verticality of Sati Burj in Mathura, along with its Mughal materiality, would certainly have visually charged the spatial fabric of the ghat. Although the

1.4. The riverfront, Mathura. Chunni Lall & Co., Muttra [Mathura], ca. 1890. 27.9 × 30.4 cm. Repository: Radha Gopinath Temple Archive, Vrindavan.

structure is now partially hidden by the extensive twentieth-century build-up by the riverfront, late nineteenth-century photographs of Mathura by Chunni Lall & Co., a prominent studio in the city, illustrate the soaring, four-story tower offsetting the horizontality of the flowing Yamuna, hinting at the immense symbolic power that the structure must have commanded in the sixteenth century (figure 1.4).[28]

It is worth noting that Sati Burj in Mathura and the Isarda *Bhāgavata Purāṇa* manuscript were contemporaneous. Both the sandstone structure and the painted folios in the Isarda manuscript reveal an attempt to engage with the visual form of the river Yamuna, particularly as it could be seen from the ghats of Braj. Indeed, a window-like opening on the upper level of the tower may have functioned as a viewing portal to see the Yamuna as it flowed past Vishram Ghat (figure 1.5). Bhagwantdas' predecessor, Ratan Singh (r. 1537–48), had also built a "ten-pillared" palace for royal pilgrimage beside Vishram Ghat.[29] Not a single trace of the palace remains, but descriptions imply that the structure provided a suitable viewing gallery for the Amber court.

The role of seeing in engendering spatial perception was key to the tower's iconographic program. One enters Sati Burj through a doorway flanked by talismanic diagrams (*yantras*) carved in stone. Frequently depicted on temple walls, ritualistic cosmograms were characteristically used as visual aids for

1.5. Upper level, Sati Burj, Mathura, 1570.

meditation or were considered to possess astrological and magical benefits.[30] On the right side of the gateway is the five-pointed star (*pancakona yantra*) that symbolizes the five material elements (*mahabhuta*) of ether, air, fire, water, and earth (figure 1.6). In the heart of the diagram is a schematic lotus symbolizing the pilgrimage center of Braj. According to Gaudiya Vaishnava literature, Krishna and his consort Radha occupy the epicenter of the lotus, and devotees use illustrations of this celestial terrain as a visual device for concentration during meditative practices.[31] The talismanic diagram could at the same time be read as a pictorial representation of Chaitanya and his four closest disciples, who together were the five metaphysical elements (*pancatattva*) as well as the five pillars of Gaudiya Vaishnavism.[32] Hagiographic accounts inform us that Chaitanya had brought liturgical manuscripts to Braj that discussed talismanic diagrams as meditative devices.[33] Thus, the depiction of such ritualized diagrams on architectural surfaces in Braj would not be out of place. Framed by a miniature gateway and two elephants, the diagram as an apotropaic schema was unquestionably intended to be seen ritualistically.

The visual language of the tower had two distinct sources. The decoration, especially the use of archways (*torana*) as a motif, as well as its vertical emphasis, had its source in pre-Mughal architecture. We see repeating archways, for

1.6. Talismanic diagram (*pancakona yantra*), façade, Sati Burj, Mathura, 1570.

instance, on the façade of the ca. 1500 Gwalior fort in central India, built by the Tomar ruler Man Singh (r. 1486–1516; figure 1.7). The well-known Chittor tower, a nine-story structure completed by the Sisodia dynasty in contemporary Rajasthan in the fifteenth century, is likewise an easily recognizable visual source. Similar freestanding archways were subsequently built near Sati Burj. At the same time, the use of imperial Mughal red sandstone, projecting eaves supported by decorated brackets, and the limited use of anthropomorphic imagery indicate that Sati Burj was designed using architectural typologies popularized by Akbar at the Mughal capital concurrently being constructed in Fatehpur Sikri, presently a suburb of Agra thirty miles south of Mathura (figure 1.8).

Indeed, the construction of Sati Burj in Mathura and construction at the Mughal capital in Fatehpur Sikri commenced in 1570 and 1571, respectively, making these two architectural projects contemporaneous. The persistent evocation of red sandstone, the stone being employed to build Akbar's fort-palaces, within the soteriological space of sixteenth-century Braj thus suggests that practices of imagining the pilgrimage center involved seeing space, not just through a metaphysical order but also as construed through contemporaneous expressions of political power. While red sandstone quarried in the region had been extensively used in the early centuries of the Common Era,

1.7. (*Above*) Façade, Man Mandir, Gwalior, ca. 1500.

1.8. (*Right*) Private Audience Hall (Diwan-i Khass), Fatehpur Sikri, ca. 1571.

1.9. Public Viewing Window (*jharoka*) in Records Office (Daftarkhana), Fatehpur Sikri, ca. 1574–75. Photo courtesy Michael Brand, courtesy Aga Khan Documentation Center at Massachusetts Institute of Technology.

the considerable hiatus in art production in the late medieval period implies that the new mid-sixteenth-century structures were being built in negotiation with the concomitant Mughal convention of using red sandstone (see figures 1.12 and 2.2). By the eighteenth century, most temples in Braj would be constructed with a fine-grained beige sandstone, also extracted from adjacent quarries, drastically departing from a two-hundred-year tradition of using red sandstone (see figure 4.3). This was not a coincidence. The extensive use of red sandstone for temple construction between the 1550s and the 1750s, a period that also witnessed the highpoint of the Mughal empire, suggests a deliberate choice on the part of patrons and architects in Braj to adopt Mughal architectural conventions.

The homology between the Mughal capital in Fatehpur Sikri and the Amber court's Sati Burj in Mathura persists throughout the tower's architecture program. Akbar, for instance, used a viewing window (*jharoka*) to ceremonially present himself to his subjects in his palace complex in Fatehpur Sikri. The imperial public viewing window (figure 1.9) was built in the 1570s in a structure

that might have functioned as the royal records office (Daftarkhana). It has been argued that Akbar derived this custom of displaying the imperial body from Hindu liturgical practices that prescribed the act of seeing and being seen by the divine body (*darsan*)—an exchange of glances with the icon in a temple—as a form of gaining merit.[34] Along with the shared material of local red sandstone, the two viewing windows—one in an imperial Mughal palace and the other in an adjacent Hindu pilgrimage site—were buttressed by similar bracketed supports that had already been used in earlier structures patronized by Akbar, such as the wrongly named Jahangiri Mahal (Jahangir's Palace; ca. 1565) in the Agra fort.[35] While Akbar's palace complexes in Agra and Fatehpur Sikri were a synthesis of Timurid typologies and western and central Indian architecture styles employed in structures such as the ca. 1500 fort complex in Gwalior, it was this innovative Mughal systemization that was prominently cited in Sati Burj in Mathura.

In the Mughal context, Akbar could be seen as having adopted the vision-centric practices intrinsic to Hindu liturgy to enunciate the idealized sovereign body. The use of the viewing window at Vishram Ghat, however, presents a somewhat different sensibility of vision and the gaze. For unlike the imperial *jharoka* in Fatehpur Sikri, designed to be looked into from the outside, the positioning of the viewing window on the upper level of Sati Burj implies that it functioned as an optical apparatus to look out of and behold the Yamuna flowing past Vishram Ghat. Located almost fifteen meters above ground level, the viewing window of Sati Burj could not have served as a framing device to gaze upon the members of the Amber court from the streets of Mathura. Instead, it provided an unhindered view of flowing water, underscoring the role of beholding the Yamuna as fundamental to pilgrimage practices at Vishram Ghat.

Sati Burj thus functioned within multiple semantic fields. On the one hand was the unambiguous citation of Mughal architecture systems. On the other hand, the viewing window enabled a logic of vision that was grounded in the modalities of pilgrimage practices at Vishram Ghat. What emerges from this doubling is not a displacement of one system by another but a sufficiently fluid schemata that could potentially accommodate diverse but interlaced practices, meanings, and inferences. Given that the patron of Sati Burj was a close ally of Akbar, the structure conceivably referred to Mughal architecture to articulate a politics of affinity while concurrently engaging with the vision-centric religious aesthetics formulated by Vaishnava theologians in Braj.

It is within this culture of intersecting homologies that we must also place the Isarda *Bhāgavata Purāṇa* manuscript. The Isarda manuscript was only one in a series of illustrated manuscripts produced in this region in the sixteenth century. A ca. 1520–40 *Bhāgavata Purāṇa* from Palam, now a suburb in southwest Delhi, with over two hundred extant folios, signals toward the larger artistic cultures that had developed in the mercantile worlds of sixteenth-century

1.10. Krishna's water sport, Palam *Bhāgavata Purāṇa*, ca. 1520–40. Ink and color on paper, 16.50 × 22.20 cm. Repository: The Cleveland Museum of Art, Gift of Mr. and Mrs. Alvin N. Haas, 1971.171. Photo © The Cleveland Museum of Art.

Delhi, Mathura, and Agra, alongside new Vaishnava devotional and pilgrimage practices that had profoundly transformed the north Indian ecumene in this period (figure 1.10).[36]

Commissioned by two Vaishnava merchants, the Palam *Bhāgavata* provides us with an apposite point of comparison to the Isarda manuscript that was produced only a few decades later. As one of the earliest known illustrations of the *Bhāgavata Purāṇa*, the Palam manuscript can be placed within a specific fifteenth- and early sixteenth-century painting tradition that had evolved in this region. Indeed, along with the Palam *Bhāgavata,* a number of contemporaneous manuscripts shared an aesthetic sensibility characterized by the use of flat monochromatic bands to delineate the background, angular figures in silhouette profile, and compartmentalized units bordered by solid lines.[37] This new artistic sensibility has been provisionally designated as the early Rajput School.[38]

Water occupies a significant place in a number of folios in the Palam *Bhāgavata*. In a folio depicting the *jal krida* (water sport), we see Krishna with the cowherd women of Braj in the river Yamuna. Working with a limited

palette of colors, the artist has carefully contrasted bands of intense reds and blues to draw the viewer's attention toward the river, which occupies the central place within the picture plane. Crucially, color is also used effectively to delineate spatial division between the worldly Braj and the divine realm from whence celestial beings shower Krishna with floral wreaths. Unlike the painting illustrating the same verse in the 1560–70 Isarda *Bhāgavata* folio, the folio with which our discussion on water ensued, the Palam artist seems to have maintained veracity in his visual translation of the verse. Consequently, along with the presence of celestial beings, Krishna, in a moment of amorous impulse, reaches out to his devotee. Krishna, as the *Bhāgavata Purāṇa* states, "was like the king of the elephants who had lost all inhibitions with his female elephants" during the water sport.[39]

In the Palam folio, the river Yamuna is depicted in a characteristic fifteenth- and early sixteenth-century basketwork pattern with clearly marked white parallel lines against deep blue water. The technique of mobilizing parallel lines to indicate flowing water has a long history in South Asia, one that can be traced back to as early as the first century BCE. A narrative relief on the eastern gateway of the Great Stupa in Sanchi, for instance, depicts the miracle of the Buddha walking on water (figure 1.11). The turbulent waves of the flooded river in the relief are also represented with repeating parallel lines. A first-century CE relief sculpture from Mathura, ninety miles south of Palam where the manuscript under discussion was produced, depicts the child Krishna being carried by his father to the house of his foster parents (figure 1.12). While there is some debate about the precise identification of the narrative, here too we find the use of parallel lines to visualize the river.[40]

It would be difficult to ascertain whether the artists of the Palam *Bhāgavata* were aware of this particular convention of depicting water from the early centuries of the Common Era. But by the fifteenth century, the passage from stone to paper had already occurred in Vaishnava aesthetic cultures. A late fifteenth-century manuscript illustrating the poet Bilvamangala's *Praise for the Young Lord of the Cowherds* (Bālagopālastuti) shows Krishna, attended by cowherd women, lifting Govardhan hill (figure 1.13). As one of the earliest representations of narratives from Krishna's life in painting, fifteenth-century illustrated manuscripts of the *Praise for the Young Lord of the Cowherds* from western India foreshadowed the new aesthetic cultures of what is now designated as the early Rajput School.[41] Notably, the river Yamuna in the folio flows across the lower edge of the painting. The river mirrors the contours of the hill that the young Krishna lifts to protect the inhabitants of Braj from the torrential rain sent by Indra, the king of gods. The undulating lines of the river and the hill operate as a powerful framing device to allow the viewer-devotee to contemplate Krishna's miraculous act. Water, simultaneously threatening and life-saving, is central to this narrative. On the one hand, Krishna shelters Braj from torrential rain that threatens to flood the riverbanks, potentially inundating

1.11. The miracle of walking on the waters. East gateway pillar, Great Stupa, Sanchi, ca. 50–25 BCE.

1.12. Vasudeva carrying Krishna across the Yamuna, ca. first century CE. Sandstone, 43 cm (height). Repository: Government Museum, Mathura, 17.1344.

1.13. Krishna lifting Govardhan hill. Folio 58 Verso, Bilvamangala's *Bālagopālastuti*, late fifteenth century. Opaque watercolor on paper, 10.79 × 23.5 cm. Repository: Wellcome Library, London, MS Indic alpha 1226. Photo courtesy Wellcome Library.

the villages in the region. On the other hand, it is the river Yamuna, marked by rapid parallel lines, that is the primary water source sustaining the agricultural and pastoral communities of Braj.

This hydrosocial imaginary played an equally important role in structuring the folio of the Isarda *Bhāgavata* manuscript. The prominence of the river and its role in governing the visual narrative, however, distinguishes the Isarda folio. The vital role of water in supporting the ecologies of life may have made the Yamuna central to the aesthetic, religious, and cultural practices of sixteenth- and seventeenth-century north India. Thus, even as the central theme of the narrative is Krishna's water sport, it seems that the Isarda artist has deliberately used pictorial configurations to draw the viewer's attention to the blue river with lotuses, blooming creepers facing the waterfront, and frolicking cattle. The blue of Krishna's body blends into the liquescent blue of the river, making it difficult to discern the separation between the river and the divine body. Carefully tilting the pictorial plane to create a sense of spatial recession, the artist draws the viewer's attention to the Yamuna, which is flowing diagonally in a wide swath along a central axis and across the surface of the painting.

The implication of this visual innovation becomes legible if we compare the 1560–70 Isarda folio with the 1520–40 Palam *Bhāgavata* folio. Following pre-sixteenth-century conventions, the river in the Palam folio functions like a flat decorative background or a theatrical backdrop in front of which the narrative is played out. While poetic tropes such as the presence of waterfowl and

blooming lotuses point toward a shared vocabulary of envisioning the natural environment, the Yamuna's movement from the background to the very center of the picture plane in the Isarda manuscript, it appears, transpired in a matter of only thirty years. A dense cluster of philosophical ruminations, theological aesthetics, and pilgrimage practices directed the optical cognizance that structured this visual rearrangement.

The Isarda manuscript's significance in art history, however, has primarily rested on the artist's attempt to bridge pre-Mughal aesthetic conventions with the emerging repertoire of the Mughal atelier under Akbar. The artist's use of delicate white lines to demarcate the turbulent waves of the Yamuna has been seen as emerging in negotiation with the growing prominence of Mughal painting in the mid-sixteenth century. One sees a similar mode of depicting the swirling fluidity of flowing water in the *History of Hamza* (Hamzanāma), a manuscript commissioned by the emperor Akbar around 1562, within six years of ascending the Mughal throne. The fourteen volumes of the imperial manuscript, each with one hundred paintings, were completed over the next fifteen years.[42] A folio from the manuscript depicting the prophet Elias rescuing Hamza's nephew, Nur al-Dahr, from the sea makes perceptible both the formal and psychological potential of water as it was imagined in the Mughal atelier (figure 1.14). The delicate strokes of white paint seem to indicate the translucence of cresting wind-driven waves, while sea monsters threaten the doomed Nur al-Dahr. It is the ungovernable power of menacing water that the Mughal artist apprehends through curved lines indicating the tempestuous waves of the sea. This fluid vitality of turbulent water was also central to the imagination of the river Yamuna flowing through Braj in the Isarda *Bhāgavata*, a manuscript that was produced within a decade of Akbar's commissioning of the imperial *History of Hamza*.

The compositional and stylistic differences between the 1520–40 Palam and the 1560–70 Isarda *Bhāgavata* were conceivably informed by the new aesthetic regimes introduced by Mughal artists in the interim. But an eco art history necessitates that we simultaneously correlate this new mid-sixteenth-century practice of visualizing water to both transformations in the natural environment and a new philosophy of place that underscored a topographic theology based on venerating the environment as a manifestation of divine form. In sixteenth-century Vaishnava texts, the river Yamuna, for instance, had accrued a connotation as the sensual drops of sweat that emerge during Krishna's lovemaking with his devotees.[43] Thus, along with other symbolic associations, Yamuna was now also ecstatic love in liquid form. The sacramental, aesthetic, and environmental affect of the river Yamuna was eulogized in contemporaneous liturgical texts, such as the *Yamunāṣṭakam*, a sixteenth-century Sanskrit hymn dedicated to the river by the Vaishnava reformer Vallabha. The hymn ends with the praise, "Through you, all spiritual powers are attained, and Krishna is delighted. You completely transform the nature of your devotees."[44]

1.14. The prophet Elias (Elijah) rescuing Hamza's nephew, Prince Nur ad-Dahr. *Hamzanāma*, ca. 1562–77. Gouache on cotton, 68 × 52 cm. Repository: The British Museum, London, 00030552001 © The Trustees of the British Museum. Photo courtesy British Museum.

For Vallabha, the Yamuna's material or external form (*adhibhautika rupa*), on the one hand, expanded the liquescence of water to seep into a multi-sensorial experience of the natural ecosystem that encompassed sand on the river banks that glistened like the lotus feet of Krishna, the melodic sound of peacocks, parrots, and swans, and sweet-smelling flowers that adorned the lush forests on the river's banks. Vallabha writes:

> Joyously I honour Yamuna, the source of all spiritual power.
> Her expansive sands shine as bright as the lotus feet of Krishna.
> Her waters are fragrant with lovely flowers from the lush forests on her banks.
> She bears the radiance of Krishna, Father of Cupid,
> Who is worshipped by both humble and assertive lovers.[45]

The river's internal form (*adhidaivika svarupa*) was, on the other hand, for Vallabha, the divine goddess who steered souls into the mystical world of *bhakti*.

Depicting the Yamuna, paintings in the Isarda *Bhāgavata* consequently appear to valorize beholding water as a theological aesthetic, a form of non-anthropomorphic hydrolatry, which did not disentangle nature from culture. The act of seeing the sacred river in the Isarda *Bhāgavata* thus encompassed the riparian ecosystem to include plant life that rendered the river fragrant, cows that gathered by the water, and monsoon clouds as dark as the water itself. At a remove from Krishna's divine sport, a woman carries water from the Yamuna in earthen pots, perhaps for domestic use (figure 1.15). Unlike the dramaturgical staging of the riverscape in the Palam manuscript, the Isarda *Bhāgavata* makes visible the everyday life that surrounds river systems as an imaginative geoaesthetic topography. Alongside new aesthetic systems and artistic styles introduced by Mughal artists in albums such as the *History of Hamza*, the image of expansive water in the Isarda manuscript was perhaps also materialized and shaped by both its theological manifestation and an ensemble of hydrosocial practices played out in and by the river that flows some eight hundred and sixty miles from the glacial formations of the Himalayas to its confluence with the river Ganga and the fabled river Sarasvati in Allahabad, Uttar Pradesh.

Significantly, this new mode of delineating the Yamuna transpired in the wake of massive droughts that devastated north India. Lasting between 1554 and 1556, the first of these droughts, which would continue well into the eighteenth century, ensued with the failure of the monsoon.[46] Writing on the drought of 1556, Abu'l-Fazl, Akbar's panegyrist and close companion, noted, "There was a terrible famine in many parts, and especially in the province of Delhi. Though they were finding signs of gold, they could see no trace of corn. Men took to eating one another; some would join together and carry off a solitary man, and make him their food."[47] Describing the famine as *khashm-i-izad,* divine wrath, 'Abd al-Qadir Bada'uni, an eyewitness to the devastation in

1.15. Detail, Krishna's water sport. Isarda *Bhāgavata Purāṇa*, ca. 1560–70. Opaque watercolor on paper, 18.8 × 25.2 cm. Repository: The San Diego Museum of Art, Edwin Binney 3rd Collection, 1990.586. Photo courtesy The San Diego Museum of Art.

the region, likewise rhetorically asserted that the "scarcity of rain, and shortness of grain" led to "man eating his fellow-man."[48] While apocryphal accounts of cannibalism during climatic catastrophes abound in early modern narratives, Mughal records indicate that the droughts between 1554 and 1556 had indeed led to a crisis in the availability of food crops. That the elite of north India, too, were affected becomes apparent in the Mughal courtier Abu'l-Fazl's grievance that during the scarcity, his family of seventy could only obtain a *seer* (two pounds) of grain, "which was set to boil in earthenware vessels, and the warm water distributed."[49]

It is at this point, within approximately four years of the 1556 drought, that we see the artists of the Isarda *Bhāgavata* visualizing a system of representing the materiality of the river Yamuna that exceeded a hydrology that disciplines, measures, and subordinates water's geological force. The natural undoubtedly shaped the aesthetic. But such a reading would have to proceed with caution.

As products of very different dynamisms, the linkages between painting practices and droughts should offer neither a deterministic history of the environment's agency nor a reductionist non-anthropocentric history of art. Rather, a transversal movement from the optical sensibility made visible in the Isarda *Bhāgavata* to the natural environment, and vice versa, could perhaps offer a relational field that foregrounds the political, social, theological, and aesthetic imperatives of seeing water.[50] Both these episodes led to a new hydroaesthetics centered on water systems.

The Topography of Hydroaesthetics in the Seventeenth Century

By the early seventeenth century, the growing popularization of Braj led to an exponential increase in patronage at the pilgrimage site. The early seventeenth century also saw the construction of a series of ghats facing the Yamuna in Braj that appears to have concretized both the metaphysical and the everyday function of the river within a particular hydroaesthetic arrangement. Much of this construction, however, occurred under the shadow of continuing droughts and monsoon failures. From 1613 onward, the intensity of droughts greatly surpassed the devastation caused by the natural catastrophes of the earlier century that we have discussed thus far.[51] Describing the 1613–15 drought that was followed by a bubonic plague that lasted for eight years, the Mughal emperor Nuruddin Muhammad Jahangir (1569–1627), who ascended the throne in 1605 after Akbar's death, writes:

> [A] great pestilence appeared in several places in Hindustan. The epidemic began in the Punjab countryside and spread little by little to the city of Lahore. Many people, both Muslims and Hindus, died of the disease. . . . Since it appears from what aged people say and from history books that this illness has never appeared in this province before, the physicians and the learned were asked about the cause. Some say that since there have been two successive dry years with little rain during the monsoon, it has been caused by the putridity of the air arising from the dryness and lack of rain.[52]

Cumulatively, the disasters of these two years took a heavy toll, with over one thousand deaths occurring on a daily basis in Agra even in 1616.[53] To ward off the effects of the 1613–15 calamity, Jahangir established hospitals in a number of north Indian cities with funds from the royal treasury.[54] The emperor also donated cauldrons that could feed five thousand people at shrines such as that of Muin al-Din Chishti, in Ajmer.[55]

At the same time, Jahangir constructed a series of riparian pavilions near the city of Ajmer in western India, where he had moved his court for three years. In 1615, the emperor constructed a small hunting palace on the banks of Pushkar lake, a Hindu pilgrimage site near Ajmer. In the same year, he built

1.16. Pavilion, upper terrace, Chashma-yi Nur, Ajmer, 1615. Photo courtesy Yael R. Rice.

another pavilion in the hills west of Ajmer, adjacent to a stream that cascaded to the lower level of the structure, bringing together architecture and flowing water within one architectonic system (figure 1.16). While scholars are yet to take seriously the etiological linkages between water scarcity propelled by droughts and the emergence of architectural practices that privilege a vision of water, a reappraisal of the architectonics of Jahangir's edifices in relation to the 1613–15 drought might connect the natural and the social in early modern South Asia. Describing his 1615 pavilion near Ajmer, Jahangir noted:

> There is a very lovely ravine in the vicinity of Ajmer, and at the end of the ravine is a spring, the water of which collects in a long, wide pool. It is the best water in Ajmer. . . . When I passed by, I ordered a structure worthy of the site built since the place was worthy of development. In one year, it had been turned into a real place, the likes of which world travelers could not point to. A pool forty ells square had been constructed, and the water from the spring had been made to pour into the pool through a fountain that sprayed ten or twelve ells high. Next to the pool were pavilions. Likewise, on the upper terrace, where the tank and spring were, harmonious

pavilions and delightful porticos and dwellings had been built—some decorated and painted by expert masters and skilled painters.[56]

Likewise, it is during the drought of 1613–15 that we see Vishram Ghat in Mathura, the principal ghat for pilgrimage in Braj, emerging as the locus of architectural projects that made seeing the flowing Yamuna central to an aesthetic appreciation of water. It would not be farfetched to read the construction of riparian architecture in Braj in relation to both the extensive droughts that had devastated north India and imperial Mughal hydrological projects. Like the careful framing of water in Jahangir's pavilions near Ajmer, architecture was carefully ordered in Braj as well. Water, a limited commodity in drought-stricken north India, was consequently made visible.

Built by Bir Singh Dev (r. 1605–27), the ruler of the central Indian kingdom of Orchha, the most prominent construction at Vishram Ghat was a *tulabhara torana*, a ceremonial archway used as a weighing scale to measure and distribute valuable commodities (figure 1.17). The ruler had sponsored the archway, or *torana*, when he weighed himself and donated his weight in gold at Vishram Ghat during pilgrimage to Mathura in 1614, along with an additional eighty-one *man* (ca. 6,480 pounds) of gold representing the eighty-one *parganas* (districts) that constituted his realm. This was a significant gesture. As the historian Dirk H. Kolff notes, "For centuries, the Orchha family would cherish the fact that the balance prepared to weigh the great king was still kept at Mathura on Vishram Ghat, dedicated to Krishna. His munificent gifts were mentioned in *sanads* [deeds] held by priests at the place."[57]

The archway functioned as a ceremonial threshold linking the liminal space between land and flowing water, an architectonic configuration that corresponds to the etymon of the word *torana* as movement or rushing forth.[58] To move forward, however, requires a spatial configuring of a rite of passage. As an architectural device, freestanding *toranas* were accordingly used as gateways to religious structures from as early as the first century BCE (figure 1.18). In the context of a Hindu temple or a Buddhist stupa, the movement through the gateway—the *torana*—would denote a movement from the profane to the sacred realm as an embodied practice of transforming oneself provisionally. The *torana* was as frequently used as an architectural motif. By the mid-sixteenth century, the *torana* as a motif had appeared on the façade of the adjacent Sati Burj. At Vishram Ghat, however the *torana* functioned as a device of enframement. The flowing Yamuna could be viewed through the *torana*, while the river concurrently framed the edifice.

Is the object of art history, then, the view of water and the frame of the architectural device an ideation of human intention and purpose bordering the view? Or is the object of art history the *torana*, framed by expansive water and the natural environment? As an optical arrangement, the frame is hardly ever inconsequential. Rather, as part of a representational whole, the frame most

1.17. *Torana*, Vishram Ghat, Mathura, 1614, with later refurbishments.

1.18. Great Stupa, Sanchi, ca. 50–25 BCE.

often operates as a generative space connecting the interior to the exterior and the internal to the external.[59] Thus, the view of water from the *torana* is neither fully internal nor completely external to its frame. Bir Singh's *torana*, then, underscored a different relationship between flowing water, sacred space, and vision. Operative here was a possible mode of seeing in which the view of water was framed by the archway, and water, in turn, framed the architecture, conjoining the frame and the object through a theological and aesthetic schema.

The function of the frame in artistic praxis has been most powerfully articulated by the Italian artist, architect, and philosopher Leon Battista Alberti in his 1435 treatise on painting.[60] According to Alberti, it was the frame that set the object of representation apart from what lay beyond it. While art history has revisited, over and again, the conundrum of the frame as an architectural arrangement that measures, determines, and regulates the fictional space of representation, an eco art history, following Jacques Derrida's reflections on the parergon, might perhaps offer an ideation of the frame that "does not remain simply outside of the work, acting from the sidelines, next to the work (*ergon*)."[61] The horizontal movement of the effervescent waters of the river Yamuna, we might then concede, produced an aqueous waterscape that shaped a very different system of spatial boundaries.

How does one account for the liquescent materiality of a substance that is constantly in flow? Does one begin by discerning stable architectural and representational forms that frame, contain, or, conversely, transmit the fluidity of water? Or does one situate the material shape of water in movement itself? Could one, then, dwell on the swirling materiality of water as immanent to its very mobility and capacity to flow? While architectural treatises categorize the myriad forms of *toranas* on the basis of placement, function, and embellishment, the *tulabhara torana* was specifically used as a balance for weighing gold, grains, and other precious commodities that were then ceremonially distributed. According to eleventh-century architectural treatises such as the *Architect of Human Dwellings* (Samarāṅganasūtradhāra), the freestanding *torana* was a symbol of a monarch's royal benevolence.[62] Indeed, we see granite portals for the distribution of wealth in Hampi, the sixteenth-century capital of the Vijayanagara empire in south India. The emperor Akbar, too, had transformed this recognized state ritual with deep historical roots into an imperial Mughal spectacle.[63] Described in the mid-seventeenth-century *History of Shah Jahan* (Shāhjahānnāma) as the celebration of weight (*jashn-i wazn*), Akbar, it seems, weighed himself twice a year and distributed the wealth in charity.[64] Festivals and fireworks lasted for days, and Akbar might indeed have used a square podium with a canopy and flanking *toranas* in his capital in Fatehpur Sikri for this particular royal celebration (figure 1.19).[65] Subsequent emperors, such as Jahangir, continued the practice, giving the custom imperial Mughal authority.[66]

In Akbar's palace complex, the richly carved ornamental *torana* brackets of the podium emerge from the mouth of mythic, elephantine creatures to form a succession of semi-circular arcs that meet under the center of each lintel. Described as the *andola torana*—a *torana* that mimics the undulation of waves—in architecture manuals, this device was commonly used in post-tenth-century temple entrances to mark the threshold that demarcated the sacred from the non-sacred.[67] The *andola torana* was likewise frequently used as architectural ornamentation, the most prominent of such usage being the ca. 1500 fort complex in Gwalior built by Man Singh (see figure 1.7) and pre-Mughal western Indian mosques established by the Ahmad Shahi dynasty (ca. 1408–1577). The deployment of this particular *torana* in Fatehpur Sikri was thus consistent with Akbar's larger architecture program of adopting both Hindu and Muslim pre-Mughal styles to posit his palace complex as epitomizing an imperial cultural cosmopolitanism. In keeping with the non-anthropomorphic architectural ethos of Fatehpur Sikri, the representations of deities in the interstices of the individual arcs were, however, replaced with characteristic Mughal rhombus-shaped decorative forms.

The *torana* on Vishram Ghat was a cognizant attempt on part of Bir Singh Dev to both incorporate Mughal architecture into the sacred riverfront of Vaishnava Braj and espouse the political significance of the ritual dispensation

1.19. Astrologer's Seat, Fatehpur Sikri, ca. 1571.

1.20. Pillar, Principal Haramsara (Shabistan-i Iqbal), Fatehpur Sikri, ca. 1571.

of wealth as a form of royal munificence. At the ghat itself, miniature *toranas* on the 1570 Sati Burj provided a strong visual analogy. The use of red sandstone, now painted brilliant yellow, along with the mobilization of Mughal motifs, nonetheless takes us back to the architectonics of imperial Mughal architecture. While evidence points to artisans from Gujarat being employed in the construction of Akbar's capital in Fatehpur Sikri, we have yet to uncover histories of artisanal patronage or praxis in early seventeenth-century Braj.[68] Thus, it would be difficult to surmise whether these Gujarati artisans had been commissioned to build the *torana* after Fatehpur Sikri was abandoned by Akbar in 1585. Perhaps that was the case. But an analysis of the ornamentation on the 1614 Vishram Ghat *torana* and on pillars in the palaces at Fatehpur Sikri, for instance in the principal *haramsara* (Shabistan-i Iqbal), insinuate that both structures were undoubtedly constructed keeping an analogous architectural paradigm in sight (figure 1.20).

Motifs such as the lotus-shaped finial, the distinctive hanging chain-and-bell pattern, rosettes in semi-lotus forms, and oblong diamond shapes on both pillars suggest a shared notion of ornament that connects the structures, even as the origins of the motifs lay in the Hindu and Muslim architecture of pre-Mughal Gujarat. Thus, even while early seventeenth-century Braj was built on sites made sacred through Krishna's primordial inhabitance, the discursive framework that structured the optical experience of this space was a Mughal palace complex. At the same time, the floriated arch with a scrolling vine and lotuses emerging from the mouth of two aquatic *makaras* (chimeric elephant-headed creatures) placed the Vishram Ghat *torana* in a longer history of Vaishnava water cosmologies that emphasized creative abundance associated with plentiful water.[69]

Unlike the emblematic function of the *torana* as a passage from the profane to the sacred, the structure on Vishram Ghat did not allow for a ritualistic transformation that could occur with bodily movement through the portal. The *torana* did not demarcate spatial distinctions between the sacred and the non-sacred, given the sacrality of Braj in its totality. Instead, the sole function of Bir Singh's *torana*, at least for pilgrims visiting the site, was to behold the river as it was framed by the structure and to see the structure as the river framed it. Moving away from the ritualistic architectonics of passage, the *torana* generated a spatial intersection between sight and site, creating a different relationship between water and space in an age of unusual droughts. Even today, pilgrims approach the water, but not by passing through the portal. It is in the unfeasibility of an object-frame binary operative here that a possible eco art history emerges, one that joins the frame and the object, architecture and the natural environment.

The emergence of a distinctive hydroaesthetics of seeing flowing water in sixteenth- and seventeenth-century Braj carefully interwove Vaishnava theology

and political governance. In many ways, the vision-centric ideation of the Yamuna, framed through Bir Singh Dev's architecture project in Braj, paralleled the emergence of a new theology based on the veneration of natural phenomena. Written by Gopal Bhatt (1503–78), a disciple of the Bengali mystic Chaitanya, the *Performance of Devotion to Hari* (Haribhaktivilāsa, ca. 1541; Hari is an epithet of Krishna), the most authoritative source for Chaitanya's Gaudiya Vaishnava practices, described the function of the river Yamuna in Braj thus: "The river Sarasvati purifies one after three days. The river Narmada purifies one after seven weeks. The Ganga purifies one immediately. Yamuna purifies one who beholds it."[70]

Even as established pre-sixteenth-century sacramental norms mandated haptic and gustatory absorption—that is, bathing at pilgrimage sites (*snana*) and drinking the water with which an icon's feet is washed (*caranamrita*)—as primary forms of ritual engagement with sacred water, the 1541 text demarcated a hierarchy of sacred rivers centered on the privileging of vision, of seeing sacrosanct water. While immersing oneself in rivers such as the Ganga allowed the devotee to purify herself or himself, the *Performance of Devotion to Hari* affirmed that the act of absorbing the goddess Yamuna's theophanic presence through ritualistic beholding was adequate for attaining purity. Given that these foundational Vaishnava texts were being composed in Braj in the mid-sixteenth century, one could link the vision of the river Yamuna in text and material culture in decisive ways.

Bir Singh's meteoric rise in the early seventeenth century was premised on the close political relationship that he shared with the Mughal emperor Jahangir.[71] Court poetry was marshaled by Bir Singh to further concretize a triangulated relationship among his capital in Orchha, the pilgrimage center of Braj, and imperial Mughal centers. In *Deeds of Bir Singh Dev* (Vīrsiṃhdevcarit; 1607), a chronicle composed for the ruler's accession in 1605, the court poet Keshavdas Mishra thus celebrated the river Betwa's beauty as it passed through Orchha and flowed into the Yamuna. Using the topography of north-central India to create a connected geography of piety, Mishra's eulogy was both evocative and explicit. Mishra wrote:

> The minds of kings are charmed and captivated at its [the Betwa's] mere sight.
> When the dark waters of the Betwa brighten up, then this looks like the Yamuna. . . .
> This Betwa is an ally of Yamuna, just like Ganga is an ally of Yamuna and this Betwa has, like the Ganga, huge waves and hence she is as beautiful and glorious as the Ganga.[72]

What emerges from this poetic chronicle is a cartography of connected rivers, each embedded within particularized local narratives yet inherently linked through the flow of water from one river system into another. The Betwa flows

into the Yamuna, the Yamuna meets the Ganga and, in process, connects Orchha to Braj and flows onward onto the Gangetic plain.

Furthermore, the emphasis on the physical form of the Betwa as the river that captivates the "minds of kings" by "mere sight" brings to the forefront the role of seeing in producing an imaginative geography in the seventeenth century that, in turn, enabled a political praxis. The court poet Keshavdas Mishra thus produced a constitutive relationship between geopolitics and vision by underscoring the function of seeing the "beauty" of the turbulent waters of the dark Betwa. Consequently, seeing the river became pivotal in the production of a connected geopolitics that was grounded on comprehending the aesthetics of the natural environment. In effect, both courtly architecture and literary cultures were mobilized by Bir Singh Dev to collocate Vaishnava Braj, Mughal Agra, and his own kingdom in central India.

By the 1740s, European visitors, for instance the Jesuit missionary Joseph Tiefenthaler, would write about the prominence of Vishram Ghat in pilgrimage practices in Braj.[73] We see continued patronage at the site well into the eighteenth and the nineteenth centuries. Augmenting Bir Singh Dev's architecture program, Jai Singh II (1688–1743) of Amber, the founder of the city of Jaipur in contemporary Rajasthan, built a temple at Vishram Ghat in 1732.[74] The monarch had, in fact, visited Braj earlier in 1727 as well, when he had offered his weight in gold at Vishram Ghat.[75] Jai Singh, one assumes, would have used Bir Singh's 1614 *torana* to ritually weigh himself, emphasizing the sustained importance of this particular edifice. Jai Singh's patronage at the ghat could, without doubt, be situated within a recognized Kachhwaha genealogy of religious patronage in Braj that began with the establishment of the pilgrimage site in the sixteenth century. The Kachhwaha ruler Bhagwantdas, for instance, sponsored Sati Burj in 1570. Man Singh I (1540–1614), one of Amber's most illustrious rulers and the highest-ranking officer in Akbar's court, built the famed Govind Dev Temple in Braj in 1590 (see figure 2.7).[76] In 1727, the same year that he performed the *tulabhara* ceremony at Vishram Ghat, Jai Singh II made Govind Dev, the icon of the 1590 temple, the tutelary deity of his kingdom. From then on, Govind Dev was seen as the ruler of the land and the Kachhwaha monarchs merely the icon's agent. Jai Singh's royal seal further reiterated the political suzerainty of the icon by stating that the Kachhwahas had taken shelter at the feet of the icon.

The nineteenth century continued to see sustained construction at Vishram Ghat, including the building of a number of temples and subsidiary *toranas*. The Maharaja of Banaras, for instance, performed the *tulabhara* ceremony in 1889 at the ghat. Expanding the existing architecture program, the monarch sponsored a new *torana* to commemorate his act of royal benevolence.[77] The emergence of a distinctive aesthetics of seeing flowing water thus carefully interwove Vaishnava theology, political governance, and the ritualized act of beholding the natural environment. In such a beholding, hydroaesthetics became the

crucial link that joined localized creative practices with an expanded nonhuman transterritorial arena of water scarcity in the early modern world.

Seeing Transversally

The deliberate attempt by Vaishnava devotees in the sixteenth and the seventeenth centuries to rehearse intimate associations with Mughal hydrocultures demands a reengagement with the political and aesthetic histories of water in early modern South Asia. This history can best be designated by a paradigm that Marshall G. S. Hodgson aptly described in the 1970s as "the social and cultural complex historically associated with Islam and the Muslims, both among Muslims themselves and even when found among non-Muslims."[78] More recently, art historians of South Asia have further explored Hodgson's notion of the Islamicate through analyzing non-Muslim art, architecture, and sartorial cultures that makes visible shared sensibilities, codes of conduct, and aesthetic systems in the subcontinent.[79] In a similar vein, the manuscripts and riparian structures discussed here offer a rich testament to the Islamicate aesthetics that permeated the land of Krishna from its very establishment in the sixteenth century.

The Muslim elite in Mughal Braj were equally engaged in the production of the pilgrimage site's sacred topography. The steps leading to the Yamuna at Vishram Ghat, for instance, were built under the patronage of 'Abd al-Nabi Khan, the commandant (*faujdar*) of Mathura under the Mughal emperor Aurangzeb (1618–1707).[80] The Mughal officer, who paradoxically emerges as a zealot Muslim in both scholarly texts and local histories, had also sponsored Mathura's Jami Mosque in 1660–61 (see figure 3.9).[81] 'Abd al-Nabi Khan's concurrent sponsoring of a mosque and patronizing the steps to the most important ghat in Mathura should not surprise us. Given the significance of Vishram Ghat in contemporaneous pilgrimage practices, this may have been an astute political maneuver designed to win over the Vaishnava constituencies in Braj. That the Mughal commandant's maneuver was indeed effective is evident from a 1782 account that reports a local aphorism in Mathura: "*Nabījī tum bin Mathurā sūnī*" (Without you, 'Abd al-Nabi Khan, Mathura is dreary).[82]

However, to reconsider the cognitive and political orientation that is necessary for an eco art history, it is essential to bring together two discreet strands of historiography: one centered on the political aesthetics of the Islamicate outlined above and the second engaged with ecological aesthetics. Hydroaesthetics, in that sense, offers a possible vector to comprehend the interconnectedness of the environmental, the political, and the aesthetic. "Nature," Félix Guattari reminds us, "cannot be separated from culture; in order to comprehend the interactions between eco-systems, . . . we must learn to think 'transversally.'"[83] In such a maneuver, transversality could perhaps provide a deeper history of

artistic practices that centralized the act of seeing water in an age of great droughts. The transversal lines of the river Yamuna that run across the Isarda *Bhāgavata* folio could then also become a site to explore a more capacious history of art, one that is open to the interweaving of the human and the environmental. As Tim Ingold puts it, "Ecology, in short, is the study of the life of lines."[84]

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FRONTIS: (Detail) The prophet Elias (Elijah) rescuing Hamza's nephew, Prince Nur ad-Dahr. *Hamzanāma*, ca. 1562–77. Gouache on cotton, 68 × 52 cm. Repository: The British Museum, London, 00030552001 © The Trustees of the British Museum. Photo courtesy British Museum.