

## INTRODUCTION

### A People-Machine

**On August 27, 1783**, carriages choked the streets leading to the Champ de Mars, then a military training ground at the edge of Paris, where a balloon ascent was in preparation. The police had secured the entire park and surrounding roads to direct traffic and to prevent accidents.<sup>1</sup> The eighty-seven-year-old duc de Richelieu walked to the site with his guards clearing the road before him. The princes of blood—the duc de Chartres (future Philippe Égalité), the comte de Provence (future Louis XVIII), and probably the comte d'Artois (future Charles X)—paraded through the crowd in their fashionable attire.<sup>2</sup> Women clad in muslin robes and covered by large hats (*chapeaux à la malborough*), or in “revolting” modern costumes, presented a “truly curious and amusing spectacle.”<sup>3</sup>

Even a royal procession had never “attracted a greater gathering of society from all estates and conditions.”<sup>4</sup> Benjamin Franklin estimated the crowd at fifty thousand and others, at three hundred thousand.<sup>5</sup> Throngs of people lined the streets and the roofs along the Seine. As in popular entertainment scenes, the crowd comprised “all orders of citizens,” which included grand seigneurs, ministers, princes, savants, artists, and the populace. The governor of the *École militaire* brought his students with “every apparatus of a great ceremony.”<sup>6</sup> The enclosure held about twenty thousand souls. People packed the surrounding field to make a colorful “canvas . . . decorated with the immense multitude of the curious.”<sup>7</sup>

The spectacle as “a locus of illusion” can enforce a system of cultural hegemony that would sustain a political structure without violence.<sup>8</sup> More

persuasive because they seem less despotic, as Jean-Jacques Rousseau intuited, science, literature, and art can camouflage the “iron chains with which they are laden” and make civilized men “love their slavery.”<sup>9</sup> Universally acclaimed as a “majestic” spectacle, the balloon ascent could have expanded the absolutist state-machine. The magnificent artifact decorated with royal emblems might have substituted for the king’s body to multiply the theatrical relations of the court (dominance and subjugation) around the nation and thereby to integrate the cultural nation as an extended version of the court society. By congregating a mass public whose veneration focused on its scientific performance, however, the balloon floated the specter of an alternative, potentially republican, nation. It became a national artifact that could destabilize the theater-nation centered on the king’s body.

In Louis XIV’s court, the king decided the texts, décor, costume, and heroes of the court theater to constitute a symbolic body that represented the state or the “king-machine” in Jean-Marie Apostolidès’s term.<sup>10</sup> In the baroque court, princely power was materialized in the clothes and jewels heaped and dangled on the royal body, as Stephen Greenblatt notes, to create “a realm of matter so rich, detailed, and intense” like a brilliant sun over a seascape.<sup>11</sup> Symbolic capital circulated through the material fashion—wigs, clothes, jewels, furniture, and so on—that marked the bodies of power and their spatial relations. An alluring geography of bodies and things disciplined Versailles courtiers to internalize their scripted roles and thereby to transmit the court hierarchy outward to the nation in fashionable displays. This *material geography* of distinction—status and power expressed and recognized through the spatial arrangement of differentially costumed bodies—inscribed the absolutist polity.<sup>12</sup> Emulation was a game that entrapped everybody who wished to find a place in the king-machine.

Pomp served power at Versailles to constitute a *theatrical polity*, not power pomp as in the “theater-state” whose sovereignty consisted in its exemplary function as a “microcosm of the supernatural order.” In Clifford Geertz’s story, Negara as the seat of Bali rule had to provide “a paragon, a faultless image of civilized existence” to shape the world around it into similes of its excellence.<sup>13</sup> As a living theater, in contrast, Versailles staged curiosity and pleasure as the primary means of political persuasion and cultural integration by domesticating the courtiers through a never-ending play. It seduced them by festivals, spectacles, luxury, pomp, pleasures, vanity, and effeminacy to occupy their minds with worthless things and to relish trifling frivolities.<sup>14</sup> A fine-tuned symbolic economy of pleasure defined the court society. The “triumph of pleasure” propagated through the Parisian royal theaters—the Opéra (Académie royale de Musique), the Comédie

Française, and the Comédie Italienne (Opéra comique)—which monopolized public entertainment.<sup>15</sup>

The king's body defined the absolutist theatrical polity to place his subjects in a complex arrangement of subordinate bodies. A "perfect courtier" mastered the art of refinement or "falsehood," which allowed him to become a willing slave to the prince and a lord to the others. He played capriciously, constantly adjusting his plans and goals, to participate in this serious, yet sad game guided by vanity and self-interest. Nobody was a greater slave than an assiduous courtier, Jean de La Bruyère (1645–1696) observed, who served not one but many patrons to advance his position.<sup>16</sup> The courtier who performed his role with precision could be easily replaced, much like a machine part. The "fall of the favorite" was a routine mechanism that demonstrated the king's putatively absolute power.<sup>17</sup> A well-functioning absolutist state-machine would be a perfect automaton, which accorded precisely defined places and functions to all subjects, as illustrated in the Salzburg mechanical theater, while excluding the populace.<sup>18</sup>

How and why such an intricately balanced state-machine fell apart is a question that has long haunted French historians in their effort to identify the economic, social, religious, cultural, or political causes of the French Revolution.<sup>19</sup> In modifying the Marxist notion of the bourgeois revolution, revisionist historians have broadened the explanatory repertoire with keen attention on the transformation of the public.<sup>20</sup> Despite the rich historiography stemming from Jürgen Habermas's notion of the public sphere, however, the path of Enlightenment from the literate public to the illiterate populace remains obscure. To fill this lacuna, we must trace how the fashionable "public"—who read books and journals, attended concerts and lectures, and frequented cafés and conversational soirées—expanded to include the illiterate "people" whose public expression can be found only through rites, festivals, ceremonies, carnivals, and riots.<sup>21</sup> As Harold Mah points out, the unspecified spatial expansion of the Enlightenment public (or public sphere) into the mass subject is a historiographical fantasy that undermines historians' capacity to understand the revolutionary crowd.<sup>22</sup> A social body is formed not by "the universality of wills," notwithstanding Rousseau's wishful formulation, but by "the materiality of power."<sup>23</sup>

The role of science and technology in setting an ideological agenda requires a careful assessment in this regard. While historians have traced the revolutionary ideology to Enlightenment thought and the cult of reason to science,<sup>24</sup> Parisian scientific institutions played an important instrumental and symbolic function in sustaining the absolutist polity and its imperial machinery.<sup>25</sup> Charles C. Gillispie thus characterized the relationship

between academic scientists and the state as an instrumental transaction of technical expertise and patronage. In objecting that science provided a model of rational authority that could counter any despotic regime, Keith Michael Baker sought to reinforce the alliance between mathematical reason and revolutionary thought.<sup>26</sup> The rhetoric of liberal Enlightenment is difficult to reconcile with the practice of absolutist science, however, especially when one focuses on the use of mathematics and measurements in the royal institutions. Ken Alder's exquisite study of interchangeable guns has shown how mathematical education cultivated a strong quest for technocracy, which persisted through the revolutionary political changes.<sup>27</sup>

In order to evaluate the complex relationship between science and polity in revolutionary France, we must pay attention to the other kinds of scientific knowledge (other than mathematics) that appropriated material powers for "popular" consumption and probe how the boundaries between the scientific public and the illiterate populace became porous.<sup>28</sup> Natural philosophy offered spectacles of active powers to the enlightened audience, as Simon Schaffer has argued persuasively, to shape their moral, aesthetic, and political sentiments. Emma C. Spary has shown how the production and consumption of coffee and liquors shaped Parisian science and culture.<sup>29</sup> How these fashionable urban sciences related to political culture is nevertheless a difficult historiographical issue, especially if we wish to include the populace and their role in shaping mass politics. In his pioneering study of mesmerism, Robert Darnton argued persuasively that popular sciences occupied the center of public attention in the 1780s when the intensifying censorship of political news and libels created "a curious calm before the storm."<sup>30</sup> He relied on the layers of elite discourse to unearth radical thought, however, which strengthened the revisionist historiography of discursive contestations. How to characterize the crowd as legitimate political actors remains a vexing problem.

Unlike other scientific spectacles that targeted the fashionable society (*le monde*), the balloon ascent also attracted the populace, which in turn invited state control and public propaganda. The concerted effort by the state and the elite public to discipline the crowd engendered a mass public—a transitional collective between the literate Enlightenment "public" and the modern mass subject that supposedly encompasses the plebian. In other words, the balloon public was conceived as a means of expanding state control over the illiterate populace. Balloon spectators in their variegated composition and unprecedented number should offer us an exceptional opportunity to understand the prerevolutionary crowd but for the silence in public reports and the absence in printed images of common "people."

Balloon historians have not yet considered its theatrical relation with the

mass audience that forged its historical agency. Charles C. Gillispie's exquisite account of the Montgolfiers' invention made a qualitative leap from the nineteenth-century triumphalist accounts, but his focus remained on the balloon and its technical progress. More recently, Marie Thébaud-Sorger's sophisticated sociological probe and Michael R. Lynn's geographical coverage have considerably enriched the balloon historiography and its relevance to the eighteenth-century consumer revolution, but they do not consider mass audience as a serious political agent.<sup>31</sup> Neither have literary scholars utilized the insights from the reader-response and reception theories to characterize the enormous balloon public and their situational agency.<sup>32</sup>

People set out, filled with hope, for the majestic balloon ascent.<sup>33</sup> As a venerated scientific spectacle, it blurred the boundary between the educated public and the populace to engender a "contact zone," which refers in Mary Louise Pratt's definition to the social space "where disparate cultures meet, clash, and grapple with each other, often in highly asymmetrical relations of domination and subordination." By configuring this space of encounter and its constitutive power relations, historians can discern the strategies of "anti-conquest" that naturalize such asymmetric relations of power as well as the strategies of resistance that challenge the status quo.<sup>34</sup> The Enlightenment "public" did not automatically develop into the modern mass public as a consequence of political, industrial, or commercial revolutions. The transformation required cultural resources, state intervention, and the technologies of mass control.

A place of memory could translate a historical imaginary—a story of the past that legitimizes political regimes and practices by utilizing history and historiography—into a political one.<sup>35</sup> The spontaneous gathering of the citizens of all estates at the Champ de Mars, the mythical place of origin for the French nation, would have presented a vivid image of the "nation above kings."<sup>36</sup> Seen as the site of the original parlement or "general assembly of the nation"—one that could legislate laws, deliberate on matters of the state, declare war, and elect kings—this place of collective memory had shaped aristocratic and judicial resistance to the absolutist regime.<sup>37</sup> Interpreted as a democratic assembly, albeit tempered by aristocratic power, the originary gathering lent itself to utopian imaginaries.<sup>38</sup>

The emergent "state-body" swirling around the patchy balloon visualized an imagined, potentially republican, nation. Forging a republican nation was a topic that had dominated café politics during the American War, gaining urgency with the peace talks.<sup>39</sup> The new republic of America offered an "imaginary recourse against" the ancien régime, as François Furet saw it, "to invent a new historical memory, free from persecution and injustice."<sup>40</sup> Balloon festivals coordinated material resources, human

actors, administrative control, and publicity mechanisms to instantiate a Janus-faced mass action precariously poised between the carnival and the riot. If the stratified barriers on the ground marked the ancien régime social hierarchy defined by social rank and capital, the aerial vista opened a powerful egalitarian vision: everybody was “equal” in the air.<sup>41</sup> The “chimera of equality” was the most dangerous of all beliefs in a civilized society, according to Denis Diderot.<sup>42</sup>

Egalitarian fraternity reigned at the Champ de Mars, according to an imaginative provincial satirist, where men and women of all professions and social status embraced their opposites: women their husband’s friends, men their neighbors, the learned the ignorant, physicians theologians, mathematicians poets, musée members academicians, and so on. Three priests, two philosophers, four financiers, one housewife, five “bourgeois,” and two fishwives supposedly fell into his arms.<sup>43</sup> Such temporary liberation from the prevailing sociopolitical order and such suspension of all privileges, norms, and prohibitions used to merge “the utopian ideal and the realistic” in the traditional carnival, according to Bakhtin, to instantiate a “true feast of time . . . of becoming, change, and renewal.” For a brief moment, the people would enter “the utopian realm of community, freedom, equality, and abundance.” While the carnival lasts, people live in it, free and hopeful for their world’s revival and renewal.<sup>44</sup>

The balloon ascent may be seen as a “politically significant *mise-en-scène*,” a modernizing carnival that brought an immense crowd of diverse composition to the same site for a briefly intensified celebration of the nation’s scientific accomplishment and technological future.<sup>45</sup> It focused disparate energies and activities of the science-minded public on a single machine and activated an experimental, ephemeral form of nation-making that infused enthusiasm into the emergent citizenry. Subversive words did not simply trickle down from the published literature, as Arlette Farge reminds us, but attached themselves to the discussion of the things, spectacles, and events seen by actual people. These acts of appropriation shaped popular culture and opinion.<sup>46</sup> As a metagenre of cultural performance, which demonstrated the authority of science and induced universal veneration, the balloon ascent wove historically, spatially, and socially differentiated forms of symbolic action into a new whole.<sup>47</sup>

A mass collective at the Champ de Mars might have intensified the subterranean longing for an emancipation from the absolutist polity, or the king-machine, when tales from the Bastille—friendly rats and all—drove home the oppression and fear that sustained despotism.<sup>48</sup> In staging a venerated mass spectacle, the balloon constituted a *people-machine*—a composite body of the nation whirling around a fragile, patchy machine, which

included the populace and thereby blurred the intricate social hierarchy that sustained the absolutist polity. As such, the balloon floated the vision of an egalitarian polity that could free the citizens from their servitude, or an alternative to the king-machine. It seemed to answer Louis-Sébastien Mercier's (1740–1814) call for a public without social boundaries gathered at a “superb public place that was capable of containing the whole body of the citizens.”<sup>49</sup> Rousseau had wished to counter the artifice of royal theaters and festivals that bored the rich and disheartened the poor by an open communal festival where gentle equality simulated natural order.<sup>50</sup>

As a flying machine that brought an indocile natural element under human mastery, the balloon floated the vision of a new golden age when a philosopher-king would govern France and nations would compete on their merits rather than on their strength.<sup>51</sup> One cannot but wonder what it meant for the “people,” often despised by the elite philosophes and fashionable socialites, to witness a scientific wonder that seemed to bring human existence closer to the realm of the gods.<sup>52</sup> What kind of theatricality did this profound moment of mass absorption engender?<sup>53</sup> Interpretations of this extraordinary moment would differ among historians, especially because of its chronological proximity to the French Revolution.<sup>54</sup>

The people of Paris have attracted historians' attention mostly for their poverty, marginality, and instability to become “a legendary and mythological historical subject” as the crowd of the French Revolution.<sup>55</sup> As such, their historical agency has been limited to making the revolutionary violence real. Historians have debated whether the revolutionary violence reflected the people's hostility to modernization or their impatience at its slow progress, stoked by the emancipatory dreams of Enlightenment.<sup>56</sup> As Micah Alpaugh has recently shown, however, revolutionary marches in the beginning were mostly peaceful demonstrations.<sup>57</sup> In trying to explain the Terror, historians have lost sight of the hegemonic system of power built on science's promise of rational progress, the exuberant mood at the end of the American War, and the administrative technologies that shaped the nation's material culture and imperial aspirations for the subsequent generations. Notwithstanding the ongoing scrutiny of the prerevolutionary public, we do not as yet possess an adequate category for the balloon public/crowd that included most of the adult urban population.

In their search for the structural and ideological causes of the French Revolution, historians have neglected the glorious moment of military and scientific victory in 1783, which promised a peaceful empire as well as internal cohesion—a vision of “true union” in the body politic for the public good, as Montesquieu had envisioned it.<sup>58</sup> The balloon spectacle in its capacity to provide “total justification for the conditions and aims of

the existing system” opened a liminal realm—a transitional realm between normal social structures that could engender new possibilities.<sup>59</sup> The mass spectacle of hope can offer an exceptional window to the tenuous, hidden connection between the Enlightenment public and the revolutionary crowd. Invisible natural fluids attracted insignificant bodies to visualize a nation of equal citizens by utilizing, ironically, the resources of the ancien régime. Once we move away from the ideological caging of the Enlightenment and the French Revolution,<sup>60</sup> balloon fever at the conclusion of the American War offers a promising subject in exploring the relationship between science, Enlightenment ideals, the French Revolution, modernity, and the European nation-empires.<sup>61</sup>

By situating balloon mania in prerevolutionary political culture, we can consider the importance of material agency in mediating between elite thought and mass action, which in turn facilitated human agency and ideological articulation.<sup>62</sup> An ensemble of public, administrative, and commercial technologies stabilized the balloon’s scientific status and philosophical virtue so as to constitute a national artifact. An archeology of this monumental, yet ephemeral, artifact would alert us to an emergent system of scientific hegemony that coordinated state power, elite knowledge, and material artifacts to enlist the uneducated populace as rational citizens. The *scientific imperium* would also blur the boundary between the nation and the empire. The nation-state in French elite desire was an imagined empire with plastic boundaries, rather than an imagined community of citizens as the philosophes wished for.<sup>63</sup>

*The Imagined Empire: Balloon Enlightenments in Revolutionary Europe* aims at an archeology of mass silence, a genealogy of the mass public, and a material geography of European Enlightenment to uncover how the flying machine—both imagined and real—stirred utopian visions and patriotic sentiments in revolutionary Europe.<sup>64</sup> The balloon staged the vision of a moral empire built on scientific prowess—a vision that had previously been nurtured through Aristotelian philosophy (for the Catholic empire) or Newtonian mathematics (for the British Empire).<sup>65</sup> By rehabilitating a machine’s agency vis-à-vis that of philosophy and the theoretical sciences in forging imperial cultures and politics, the book configures a “history of the present” which, in Michel Foucault’s vision, would intensify the “insurrection of subjugated knowledges” and expose the vulnerability of “global, totalitarian theories.”<sup>66</sup> If we wish to characterize science as a communicative action without boundaries and abandon the term “popular science,” as James A. Secord proposes, we must understand how machines and material artifacts communicate and translate science for a mass audience.<sup>67</sup> Unlike philosophy or mathematics,



spectacular machines could reach the populace without the layers of mediation. By configuring a machine's agency and geographical reach, we can probe its relevance to mass politics and global history.

Our ability to conduct an archeology of subjugated knowledges and silent actors is severely limited by the "archive"—the collection of documents carefully selected and preserved for posterity. History also depends on what historians choose to write and how they interpret extant documents, the bulk of which were produced and preserved by dominant groups. Foucault's archeology of silence thus aimed at uncovering the "broken dialogue" between the extant and the extinct modes of representation to uncover the rules of producing the successful knowledge-truth-power complex that came to dominate the world. Access to these formative rules depends on excavating alternative historical actors and their statements.<sup>68</sup> The archeology of mass silence poses an insurmountable challenge, therefore, in identifying the subterranean layers of discourse. Popular culture remains an "umbrella term for practices rooted primarily in oral exchange, local settings, and the vernacular," which has long limited the attempts to write the "history from below."<sup>69</sup>

In the case of ballooning, the populace is absent in most images, reports, and histories: the journalistic "public transcript" screened out dissenting voices and unsightly people to consolidate a broad consensus on its meaning for the public good. As "the *self*-portrait of dominant elite as they would have themselves seen," the public transcript in James C. Scott's definition is designed to naturalize their power by creating "the appearance of unanimity among the ruling groups and the appearance of consent among subordinates."<sup>70</sup> In order to write a critical (rather than monumental or antiquarian) history of ballooning in Friedrich Nietzsche's conception, therefore, we must scrutinize "the archive" that has perpetuated a glorious memory of the French aerial conquest and unearth a diverse "repertoire" of literary and material performances that shaped the mood on the streets.<sup>71</sup>

The archeology of mass silence in this book employs a dual strategy in interpreting the sources. On the one hand, it brings to light the few extant pamphlets that have been written out of history. In contrast to the number-ridden reports and the myth-enacting poetry published in censored newspapers, the pamphlet literature on ballooning often conjured up diverse characters. Identified by their titles or professions, these pamphlet characters voiced their social, political, and cultural standpoints.<sup>72</sup> Such a representational field configured an inward gaze that, by criticizing French society and polity, undermined the outward vision of a vast technological and cultural empire.<sup>73</sup> As literary performances, these pamphlets fractured the balloon's scientific identity and representative political function. They

offer a glimpse of the imagined machine polity engendered by this ephemeral, yet monumental artifact. In other words, these pamphlets harbor the memories, political claims, and identities of the “anti-balloonists,” which produced the hidden transcripts on ballooning—the “offstage speeches, gestures, and practices that confirm, contradict, or inflect what appears in the public transcript.”<sup>74</sup>

On the other hand, the historian must scrutinize the triumphalist sources themselves in an attempt to discern the literary and visual technologies that silenced the populace. Historians have long tried to circumvent the lack of subaltern sources by tapping official archives such as the Inquisition and the police records.<sup>75</sup> A small sampling of transgressive historical actors would not capture the balloon’s extraordinary visibility and representativeness, however, which seemed to unite a crowd of diverse composition and unprecedented size in a shared dream.<sup>76</sup> In order to make the balloon relevant to mass Enlightenment and revolutionary festivals, we must understand how the royal administrators deployed censorship and policing mechanisms to subsume dissident political imaginaries. Without acknowledging such hegemonic operation of the *ancien régime*, which sustained its fine-tuned equilibrium and a moderately progressive vision of a benevolent monarchy, political significance of the balloon’s theatricality will remain hidden.

Spontaneous balloon festivals also lend themselves to a genealogy of the French Revolution.<sup>77</sup> A genealogical approach in Foucault’s terminology seeks to identify the stabilized techniques of a power-knowledge regime that turn human bodies into objects of knowledge to constitute the “body politic.” For example, Foucault focused on the prison, its organization, and its machinery of disciplining the body for an embodied “history of the modern soul.”<sup>78</sup> Similarly, an analysis of the machine polity can focus on the ideal machine that coordinates a repertoire of stable technologies to consolidate a distinct knowledge-power complex. Machines as cultural artifacts articulate sociopolitical power in more diverse forms than the human body to provide distinct models for alternative hegemonic systems. Their mobility also allows the historian to consider politics on a larger scale. As Michael Adas has argued, machines function as the measure of men and their civilization across asymmetric cultures.<sup>79</sup>

A genealogy of scientific spectacles can also help us discern a repertoire of stable technologies that work across a representational divide.<sup>80</sup> A sudden discursive change may take place not necessarily because of individual actors’ intentions and interests but through the configuration of a new object on which the technologies of control operate. By delineating the power relations that transformed a patchy machine into a spectacular scientific artifact of mass veneration, we can identify the balloon public as a lost

historical entity that nevertheless remained in dialogue with the revolutionary crowd and their scientific spectacle—the guillotine. A scientific killing machine designed to be humane and democratic for the revolutionary cause, the guillotine became a substitute spectacle (and national artifact) for the balloon with intimate emotive impact.<sup>81</sup> Despite their divergent emotional and political outcomes, these two monumental machines shared an ensemble of scientific, administrative, social, and literary technologies that stabilized their hegemonic status.

New machines can articulate alternative polities. The baroque polity utilized automata as a hidden source of power to materialize princely authority as in the court masque and the water gardens.<sup>82</sup> The automaton as an intricately designed machine also specified the role each person had to play in the state-machine and symbolized a mode of existence within a complex, interrelated whole. For this reason, a machine's capacity to coordinate an alternative collective became a critical resource under volatile political circumstances, as Steven Shapin and Simon Schaffer have shown in *Leviathan and the Air-Pump* (1985). In Restoration context, the Royal Society of London advocated a parliamentary polity by envisioning a consensual form of life around the air-pump. The glass machine's physical fragility, coupled with its social need for credible spokespersons, made a paradoxically convincing argument for the parliamentary constitution of experimental philosophy and legitimate polity.

A century later in France, the balloon weakened the king-machine by opening a liminal zone in which the existing technologies of scientific demonstration, social control, and political machination could no longer contain the audience or the meaning of a mass spectacle. By radically expanding the public for scientific spectacles, the balloon projected an alternative nation that would mobilize royal power for the citizens' liberty and happiness. The effort to utilize the balloon for a regime of scientific hegemony and to discipline its crowd as a mass public ultimately failed despite the refined administrative technologies in communication, transport, and policing. Exactly who might assume the sovereignty of the nation became a matter of contention. After a brief reign of the guillotine and the Napoleonic Empire, a variety of "romantic" machines would take up the transformative task.<sup>83</sup>

European modernity was inextricably interwoven with the machines that could design alternate worlds. In an archeology of the Peacock Island near Berlin, for example, M. Norton Wise and Elaine M. Wise have unearthed the changing visions of the Prussian monarchy, which transformed it into an English garden powered by a steam engine in the post-Napoleonic period. In its spectacular visibility, the engine house symbolized human activity

that would form an ideal nature and a powerful nation. According to John Tresch, nature became an interactive entity that involved human consciousness and action through the romantic machines and their translations of philosophy and aesthetics for the mass public, which charted the contentious path of Parisian modernity. The transformative power of machines shaped progressive social visions and utopian dreams for a harmonious state-machine that would realize the human potential. Modernism in the fin-de-siècle Europe would also depend on machine-mediated “physiological” aesthetics, as Robert M. Brain’s elegant study indicates. Specific configurations of measuring instruments, techniques, and living substances produced reliable elements of physiological knowledge to cultivate avant-garde arts.<sup>84</sup>

The story begins in part I, “Invention in Theatrical Polity,” with a genealogy of the material public sphere—the domain of public spectacles that mixed the enlightened public and the uneducated populace—which developed only limited genres of discursive articulation such as standardized newspaper reports and entertaining pamphlet literature. In order to appreciate the political significance of this material domain, we must bring to light the technologies of social control that monitored its boundaries and how a fragile scientific machine destabilized them. Drawing on the Montgolfiers’ extraordinary archives, chapter 1 characterizes ancien régime inventors as liminal figures prone to the dreams of a spectacular ascent through their genius in the way literary, artistic, and scientific talents had been rewarded.<sup>85</sup> The Montgolfiers’ spectacular ascent from the automata-like existence makes poignant sense only against the sensational failure of Jean-Pierre Blanchard’s flying carriage a year earlier. The first balloon ascents near Paris, chronicled in chapter 2, engendered the public transcript, which characterized the “aerostatic machine” as a useful scientific artifact that would serve the nation and humanity. By identifying the hegemonic apparatus that sustained the theatrical polity, this chapter unveils a complex public domain supported by the royal institutions, variegated patronage networks, the public press, the postal system, subscription mechanisms, and individual aspirations. This mixed public domain transformed a useless provincial invention into a potentially useful national artifact. Subsequent Parisian human ascents, discussed in chapter 3, shifted public attention to the “intrepid” human actors, or the aeronauts who became authentic folk heroes. The “Assumption” of the philosopher-voyager Jacques Alexandre César Charles mesmerized the crowd whose “universal” admiration inaugurated a new body of the nation. The apotheosis of the philosophical aeronaut—devoted to the patrie and humanity—signified a triumph of the common people who wielded the power to select their own heroes. The mass theater commanded

by this venerated philosophical Columbus, or “true Columbus,” pushed the absolutist theatrical polity precariously toward the unknown.

The balloon floated the hope for a republican nation, which would be ruled by a philosophical majesty and populated by happy citizens. In part II, “Philosophical Nation,” the analysis moves away from the marvelous artifact and its representatives to the silent spectators and their imagined nations. By paying attention to diverse “hidden transcripts,” chapter 4 stratifies the balloon audience and their efforts at transculturation, which were integrated as a consensual vision of benevolent monarchy. Rétif de la Bretonne’s subversive fantasy of republican empire is shown to share similar sentiments, for example, with the Orleanist push for a philosophering. The administrative efforts to control mesmerism and ballooning in the spring of 1784, delineated in chapter 5, attest to a subversive thread of the material politics that utilized natural fluids to mobilize the populace. Both the open balloon theater and the private mesmeric séance lay outside the well-policed public culture of royal theaters. Provincial fermentations caused serious concerns about their disruptive potential. Even the successful ascents in Lyon and Dijon, analyzed in chapter 6, coordinated elite patrons, material technologies, administrative resources, and local publics to strengthen regional patriotism rather than produce docile royal subjects. Whether provincial citizens would commit to a unified nation depended in part on the balloon’s capacity to project universal aspirations. A failure, as in the Bordeaux attempt discussed in chapter 7, invariably caused a riot that threatened the status quo. The balloon’s fall from the royal and public grace may be attributed in part to its potential to incite popular enthusiasm and unrest. It transgressed the carefully maintained boundary between the literate “public” and the illiterate “people” to float the vision of another nation.

The geography of balloon spectacles structures part III, “Material Empire,” to map the mediated cultural translations and patriotic revolutions that produced a patchwork of European modernity. Although the travels across cultural and linguistic boundaries shaped the balloon’s identity as a French artifact, contestations over its scientific promise and political associations exposed a heterogeneous European modernity that was as patchy and fragile as the balloon. Simply put, the balloon carried French civilization abroad, excised of its philosophical aspirations. The slow effervescence of London ballooning, chronicled in chapter 8, contrasted sharply with its instant stabilization as a scientific artifact in Paris. London ballooning became neither royal nor public but commercial. The contrasting geographies of science and spectacle in the two imperial capitals reflected their divergent polities. Interdependency among the geographically proximate powers often generates competitive differentiation and individualization

through complex cultural interaction and resistance.<sup>86</sup> The competition to cross the English Channel became fierce, as recounted in chapter 9, but the London public did not invest in the French aeronaut Blanchard's historic crossing. Nor could he turn a profit with his Aeronautic Academy. As the British press noted, Blanchard's "French" strategy of appealing to affluent patrons did not work in London.

When British native ballooning began to mushroom, Blanchard launched an itinerant business on the continent, as discussed in chapter 10. He staged ascents mostly along the northeastern French border zone while occasionally venturing out to the German-speaking cities. The infrastructure of the Grand Tour—mapped by a host of London hotels and the routes of transport such as rivers, canals, and highways—played a significant role in charting the geography of ballooning.<sup>87</sup> Nevertheless, the cost and the mechanism of preparation limited potential sites.<sup>88</sup> Blanchard's continental itinerary, determined by the prosperity and aristocratic pretensions of target audiences (often Freemasons), suggests a liminal geography of the balloon Enlightenment—the French cultural empire expanding through aristocratic pleasure and mass veneration, which paradoxically strengthened German patriotic resistance to French civilization. The Masonic ideal of universal fraternity, which facilitated balloon travels and translations across cultural and political borders, helped build nationalistic empires.<sup>89</sup> A process of deliberate cultural and political appropriation transformed the balloon's meaning and function in the emergent European nations.

The epilogue sketches out the revolutionary metamorphoses of French balloonists and their patrons to muse upon the intersecting historical agency of machines and humans. The imagined flying machine had carried an emancipatory desire for millennia to open a liminal moment of intense mass veneration—when people are detached from the dominant system and free to imagine alternative social arrangements.<sup>90</sup> The machine's ability to fly across time—or to enact deep historical memory—manifested as its spatial capacity to consolidate a mass public. This spatiotemporal nexus of a mass spectacle would resurface through the Federation movement, which began in the provinces and culminated in a grand "festival of the nation." A "superb balloon in the colors of the nation," stripped of royal emblems, rose from the Champ de Mars at the end of the weeklong Fête de la Fédération on July 18, 1790.<sup>91</sup> As the revolution turned violent, the emotive power of mass spectacle would be carried on by the guillotine—a scientific killing machine that accentuated the terror of the sublime.<sup>92</sup> A genealogy of scientific machines can illuminate the continuity as well as the discontinuity across the revolutionary divide.