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The Education of Henry Adams

BOTH A GRANDSON and a great-grandson of American presidents, Henry Brooks Adams was a fourth-generation member of what was by far the most important and influential political dynasty in American history. He received the finest formal education available in his time, graduating from Harvard, where he was later appointed a professor of medieval history. During the Civil War, he served as a secretary to his father Charles Francis Adams Sr., who was appointed United States ambassador to England, and he was later the editor of the *North American Review*. Nonetheless, his autobiography *The Education of Henry Adams* shows a deep sense of failure and raises the question of how to cope with the erosion of all certainties and the collapse of the idea of teleological progress. During Adams's lifetime, the virtues of the American republic, its moral and spiritual basis, were being submerged under the rising tide of capitalism. Industrialization exploded after the Civil War, and with the growth of industry and business came urbanization, the cities being flooded with young farmers and European immigrants. Such developments also led to a new American upper class, consisting of entrepreneurs such as the Carnegies and the Rockefellers who built enormous fortunes by exploiting natural resources and cheap labor. Here Charles Darwin's [or Herbert Spencer's] survival of the fittest meant a ruthless selfishness and the striving for profit by any means. A new generation of Americans had to deal with the problems born of capitalism, industrialization, and social and economic change. The old republic, with its party system of Republicans and Federalists, was transformed in a new 'mass democracy,' with Democrats and Whigs. The old republic had restricted popular participation in politics by permitting only property owners to vote and through the hierarchical structure of parties, including the provision that only the members of the party elites could nominate candidates. In contrast, the new democratic system relied more on grass-root support and shaped politics according to the people's will. However, selfish economic individualism also entered democratic politics. Corruption was so much the order of

the day that Whitman, in *Democratic Vistas*, complained that “never was there, perhaps, more hollowness at heart than at present, and here in the United States . . . The official services of America, national, state, and municipal, in all their branches and departments, . . . are saturated in corruption, bribery, falsehood, mal-administration . . . The great cities reek with respectable as much as non-respectable robbery and scoundrelism” (*Poetry and Prose* 961). In short, even in the new mass democracy—with its promise of a government of the people and by the people, where the representers were thought not to be aloof from the represented—the gulf widened continually: “I say that our New World democracy, however great a success in uplifting the masses out of their sloughs, in materialistic development, products, and in a certain highly-deceptive superficial popular intellectuality, is, so far, an almost complete failure” (962).

Adams’s writings, I argue, are important for a discussion of the Body|Politic because he can be regarded as the last republican, situated at a historical point where, after the Civil War, the republic of the founding fathers [in which his ancestors played a fundamental role] was about to be replaced with modern democracy. The republican tradition had embodied the ethos of a Body|Politic rooted in ‘civic virtue,’ the absence of corruption and overly commercial interests, ensured by a system of checks and balances and able leaders. The shift from a politics of virtue to a politics of [self-]interest necessitated a new structure for the Body|Politic in the new era of modernity, in which the world became faster and smaller, and people’s experiences became increasingly fragmented and alienated. It called for a new science as well: sociology. The work of ‘socio-evolutionists’ such as Auguste Comte [who actually coined the word *sociology*] and Spencer developed simultaneously with Darwin’s theory of evolution, and took nineteenth-century biology and physics as its scientific models—exactly the sciences that Adams also turned to in order to make sense of the seismic shift to modernity, a transition he also equates with the trajectory from unity to multiplicity, and from order to chaos [it must be noted, however, that he is ambivalent about at least the concepts of multiplicity and chaos]. In his *Education*, Adams repeatedly focuses on the energy that multiplicity and chaos provide, and the staleness and inertia of order, and connects these musings with political observations. The residual Puritan in him claimed that “anarchy, by definition, must be chaos” (385), but he also concedes that “chaos often breeds life, when order breeds habit” (239). To counter stifling habit, Adams saw the need for reforms, since “the whole government, from top to bottom, was rotten with the senility of what was antiquated and the instability of what was improvised . . . the whole fabric required reconstruction as much as in 1789, for the Constitution had become as antiquated as the Confederation.

Sooner or later a shock must come, the more dangerous the longer postponed. The Civil War had made a new system in fact; the country would have to reorganize the machinery in practice and theory” (ibid.). For Adams, the American nation is deeply indebted to the ‘power of the people.’ His histories of the United States during the administrations of Jefferson and Madison, which cover one of the most important periods in the founding of the American nation, are a hymn to the power of “the people of the United States, . . . [who] were trying an experiment which could succeed only in a world of their own” (*History Jefferson* 1020). Thus, if Adams seems at times to be deeply pessimistic about the development of American democracy, he always saw that its problems were the fault of the corruption of political representatives, and not of the people: “The better test of American character was not political but social, and was to be found not in the government, but in the people” (*History Madison* 1336). Ultimately, for Adams, “after all systems of Government are secondary matter, if you’ve only got your people behind them. I never have as yet felt so proud as now of the great qualities of our race, or so confident of the capacities of men to develop their capacities in the mass” (*Letters* 1:458).

Though Adams is not a political theorist in the narrow sense of the word, and though he does not present a unified and coherent theory of the Bodyl Politic, his writings contain much of use and value for an assessment of the trajectory of the Bodyl Politic from the republic of the founding fathers to the modern democracy of the twentieth century.¹ For Adams, a historian, “democracy is the only subject for history. I am satisfied that the purely mechanical development of the human mind in society must appear in a great democracy so clearly, for want of disturbing elements, that in another generation psychology, physiology, and history will join in proving man to have as fixed and necessary development as that of a tree; and almost as unconscious” (“Letter to Eliot” 80–81). As Richard Hofstadter has put it, “while it is no doubt true to some degree everywhere that history doubles for political theory . . . it is perhaps more keenly true in the United States” (*Progressive Historians* 4). Adams was not only a historian but also a man of letters, novelist, and political journalist, and his *Education*, though partly indebted to the discursive strategies of the autobiographical form, is actually an extended meditation on the social, technological, political, and intellectual changes that marked the transition from the nineteenth century to the twentieth. For Adams, the story of the individual provides the story of the nation—the ‘biological evolution’ of the individual body has to be read in conjunction with the ‘democratic evolution’ of the Bodyl Politic: “American types were especially worth study if they were to represent the greatest democratic evolution the world could know. Readers might judge for themselves

what share the individual possessed in creating or shaping the nation, but whether it was small or great, the nation could be understood only by studying the individual" (*History Madison* 1335). As both novelist and historian, Adams made use of the scientific concepts of his times. He did not adhere so much to their quality as rigorous scientific and [quasi-]objective theories, but to their usefulness as heuristic and conceptual models. His use of such concepts "reveal[s] a desperate search for new terms and appropriate metaphors for describing twentieth-century forces" (J. Rowe 50). Attacks on the inaccuracy of Adams's application of scientific concepts miss the point. As Melvin Lyon has suggested, their use should be read as the attempt to create convenient fictions exemplifying Adams's quest for powerful metaphors.² In this chapter, I want to show how some later developments in the human and natural sciences would have provided a fruitful subtext for Adams's doubts and ramifications, developments he sensed but could not conceive of within the scientific framework of his own time. Adams himself sees the close connection between science and politics in their attempts to come to terms with the "evidence of growing complexity, and multiplicity, and even contradiction, in life. He could not escape it; politics or science, the lesson was the same, and at every step it blocked his path whichever way he turned. He found it in politics; he ran against it in science; he struck it in everyday life, as though he were still Adam in the Garden of Eden between God who was unity, and Satan who was complexity, with no means of deciding which was truth" (*Education* 377). This seemingly simple distinction between the discrete entities of *unity* and *multiplicity* is complicated throughout the whole text by chiasmic claims such as "the greater the unity and the momentum, the worse became the complexity and the friction . . . the multiplicity of unity had steadily increased, was increasing" (*ibid.*). Ultimately, "order and anarchy were one, but . . . the unity was chaos" (385). I am not insinuating that Adams was a complexity theorist *avant la lettre*. However, while contemporary [human and natural] scientists have generally regarded Adams as a brilliant but weirdly erratic figure in American thought, these quotations show that his interest in the interrelations of chaos and order, multiplicity and complexity, at least points in the direction of this new discipline. In "A Letter to American Teachers of History,"³ Adams claimed that the "department of history needs to concert with the departments of biology, sociology, and psychology some common formula or figure to serve their students as models for the working of physico-chemical and mechanical energies" (*Degradation* 261–62).

To read the "physicist-historian" (310) Adams in the light of current scientific findings repeats his gesture to 'make sense' of the past by the present, a gesture that, according to Roland Barthes, is the ultimate gesture of

criticism: “One can say that the critical task . . . is purely formal: not to ‘discover’ in the work or the author something ‘hidden,’ ‘profound,’ ‘secret’ which hitherto passed unnoticed (by what miracle? Are we more perspicacious than our predecessors?), but only to adjust the language his period affords him . . . to the language, i.e., the formal system of logical constraints elaborated by the author according to his own period” (“What Is Criticism?” 258–59). Since Adams himself struggled with Darwinism and the theory of evolution, with genealogy and its vicissitudes, I want to situate his rhetoric of education and its failure, unity and multiplicity, within the contexts of complexity theory⁴ and molecular biology—as a neo-Darwinian approach to the question of evolution. Here, I will draw in particular on the texts and theories of Deleuze, Serres, and Stuart Kauffman.

The discourse of genealogy, or the question of heredity and family lines, provides an important structural paradigm for Adams’s text, and it is this discourse that this chapter will mainly focus on. It might even be apt to say that *The Education of Henry Adams* tells a story of heredity as much as it tells a story of education. Even before the beginning, so to speak, the text of *The Education* focuses on the question of ‘the self’—both on the relation of the self to history, society, and knowledge, and on the relation of the self to itself. *The Education*, curiously enough, begins with two prefaces. While the first is composed by a ‘fake editor’ [Adams himself wrote it] and provides a short introduction to the overall topic of the book and the history of its author, the second, ‘real’ preface revolves around the problematics of the ego. Referring to Rousseau’s *Confessions*, Adams calls this book “a monument of warning against the *Ego*” (*Education* 8). Here, the ego is seen as a “manikin on which the toilet of education is draped in order to show the fit or misfit of the clothes.” Adams does not believe in the individual ego as a center for knowledge and language—for him, “the object of study is the garment, not the figure. The tailor adapts the manikin as well as the clothes to his patron’s wants.” The subject of education, however—the ‘real body’ for which the ego-manikin serves as a ‘model,’ the “young man himself,” or Henry Adams—is “a certain form of energy; the object to be gained is economy of his force” (ibid.). In this oscillation between center and energy/economy, Adams’s second preface structurally repeats the tension he refers to in his “Editor’s Preface,” the tension between his study *Mont Saint Michel and Chartres* [1904] and the *Education* as a whole. Whereas Adams refers to the first book as “a Study of Thirteenth-century Unity,” he labels *The Education* “a Study of Twentieth-century Multiplicity” (5).⁵

Educated in a long tradition of conservative Bostonians to which he felt he belonged—“his education was warped beyond recovery in the direction of puritan politics . . . the old Puritan nature rebelled against change” (29)—

Adams felt quite lost when faced with the ‘paradigm shift’ of modernity brought about after the Civil War and the assassination of Lincoln, seeing “before him a world so changed as to be beyond connection with the past” (202). ‘Unity’ had been the main attractor of Adams’s education, in his interest in medieval theology but also in the fact that members of the Adams family had been devout fighters for the cause of unity in the political sense: Adams’s great-grandfather was John Adams, the second president of the United States, the “colossus of independence,” as Thomas Jefferson called him, and a believer in a centralized government with strong checks and balances of popular power. Adams’s education along the paths of ‘unity’ had not prepared him for the ‘multiplicity’ he encountered. Whereas former generations could rely on “old forms of education, that [generation] which had its work to do between 1870 and 1900 needed something quite new” (30), simply because the world as Adams knew it had completely changed: “In 1900 he entered a far vaster universe, where all the old roads ran about in every direction, overrunning, dividing, subdividing, stopping abruptly, vanishing slowly, with side-paths that led nowhere, and sequences that could not be proved” (379). Adams sensed that he had lost what he thought had been a past of fixed and orderly certainties. He stood on the brink of “a new multiverse” (433) of uncertainties, a radically polycentric world of intersecting forces, a new version of the world that once and for all replaced medieval monotheism—“a new world which would not be a unity but a multiple” (ibid.). This multiverse was discontinuous with Adams’s personal past and amounted to a sudden historical break. He was faced with absolute newness; for him, “this new exploration along the shores of Multiplicity and Complexity promised to be the longest” (425). A historian born to a family of politicians, describing himself as a “student of multiplicity” (424), Adams was highly concerned with multiplicities and complexity and their relation to the Body|Politic [and the domain of complexity theory, closely related to the similar interests of Deleuze and Serres] as early as 1907, when these ‘new sciences’ did not yet exist per se. This chapter is not so much concerned with the accuracy of Adams’s explorations as it is with his attempt to conceive of a ‘dynamic theory’ by adapting and mutating the physical sciences of his time.

The first chapter of *The Education*, following the two prefaces, begins with an impressive and extensive litany of names and places that unmistakably establish the main coordinates of the tradition and cultural background in which Henry Brooks Adams was situated at birth: “Under the shadow of Boston State House, turning its back on the house of John Hancock, the little passage called Hancock Avenue runs, or ran, from Beacon Street, skirting the State House grounds, to Mount Vernon Street, on the summit of

Beacon Hill; and there, in the third house below Mount Vernon Place, February 16, 1838, a child was born, and christened later by his uncle, the minister of the First Church after the tenets of Boston Unitarianism, as Henry Brooks Adams” (9). This safe insertion into a privileged cultural background is immediately paralleled by Adams’s recourse to a bodily, organic metaphor. Commenting on his birth and the ritual of christening, Adams connects this act to an apparently more brutal Jewish ceremony of circumcision: “Had he been born in Jerusalem under the shadow of the temple and circumcised in the Synagogue by his uncle the high priest, under the name of Israel Cohen, he would scarcely have been more distinctly [*sic*] branded, and not much more heavily handicapped in the races of the coming century” (ibid.). Two chapters later, Adams explicitly draws the connection to the idea of ‘education’ when he states that “the surface was ready to take any form that education should *cut* into it” (43, my emphasis), and in his reference to education as being “stamped” (ibid.) onto the body. Education, the law of the symbolic register, qua representation cuts into the continuum of the body. From such a perspective, the body is seen as inert, passive matter awaiting conceptual differentiation from the outside, and not as an informed body that differentiates *itself*—the body is regarded as something that is [man-]made, not something that is alive, that grows. As John Carlos Rowe has observed, in *The Education*, “education becomes the successive activities of draping, cutting, and fitting the garments and studying their ‘fit or misfit’” (30) on the manikin, which also is the result of a primal cut [analogous to circumcision], a cut that introduces the subject to the realm of representation, culture, and tradition. It is indeed this cut that makes the subject come into existence *as* subject in the first place. The question is, however, to use Adams’s metaphor of the second preface, how closely the Body|Politic’s desire for unity and representation can be linked to the “certain form of energy” that the subject *is*, without ‘cutting off’ the connection.

Throughout the text, Adams repeatedly builds up an opposition between country and town, summer and winter, closely connected to the respective family lines of the Adams family and the Brooks family. Whereas summer, country, and the Brooks family are associated with freedom and play, winter, town, and the Adams family represent rules and regulations, the law. As Lyon has observed, “by associating Boston and school with winter, [Adams] also creates the first link between his unity-multiplicity dichotomy and the book’s pervasive water symbolism. For winter is rigid unity, a frozen time of ice and snow. This symbolic use leads directly into the snow, ice, and glacier imagery which appears later in the book” (134). However, within this ‘rule of phase,’ so to speak, Adams [as the subject ‘Henry Adams’ within the text

of *The Education*] opts for yet another phase state, an alternative between frozen rigidity and fluid turbulence. In a self-reflective passage in which he comments on the process of writing, Adams states: “The pen works for itself, and acts like a hand, modelling the plastic material over and over again to the form that suits it best. *The form is never arbitrary, but is a sort of growth like crystallization*, as any artist knows too well; for often the pencil or pen runs into side-paths and shapelessness, loses its relations, stops or is bogged. Then it has to return on its trail, and recover, if it can, its line of force” (*Education* 369–70, my emphasis). Still, it is exactly the variety, the deviance of the rigid main lines that Adams repeatedly highlights both in the text of *The Education* and in his account of his own genealogy. The discourse of teleological heredity is repeatedly *infected* by the discourse of heresy. In the first chapter, Adams states that “the atmosphere of education in which he lived was colonial, revolutionary . . . , as though he were steeped . . . in the odor of political crime. Resistance to something was the law of New England nature” (12). Here, Adams foreshadows that strange chiasmic formulation he later uses to express what he sees as a universal formula: “Chaos was the law of nature; Order was the dream of man” (427). In these phrases, lawlessness itself turns into a kind of law. And it comes as no surprise, bearing in mind the opposition of rigidity and fluidity that Adams sets up throughout the first chapters, that later accounts of outlawry should sometimes overlap with Adams’s recourse to water imagery.

In Rome, where he receives “accidental education” (84) on his European tour, Adams discusses the example of the Italian patriot Garibaldi. He retrospectively describes himself as a “young American who had no experience in double natures” (95), in those ambiguities that a character such as Garibaldi presented to him, which “seemed to teach the extreme complexity of extreme simplicity.” Adams’s observations of Garibaldi’s “compound nature of patriot and pirate” (95), are later taken up in his repeated self-characterization as “conservative Christian anarchist” (384, 446). In this earlier chapter, he comments on the fact that his family heritage had once provided two quite similar examples of patriot and adventurer, so that even in his ‘unitary’ tradition, multiplicity|complexity inheres: “Minister Adams remembered how his grandfather had sailed from Mount Wollaston in mid-winter, 1778, on the little frigate ‘Boston,’ taking his eleven-year-old son John Quincy with him, for secretary, on a diplomacy of adventure that had hardly a parallel for success. He remembered how John Quincy, in 1809, had sailed for Russia, with himself, a baby of two years old, to cope with Napoleon and the Czar Alexander single-handed, almost as much of an adventurer as John Adams before him” (111). No wonder, then, that Adams’s

“highest ambition was to be pirated and advertised free of charge, since, in any case, his pay was nothing. Under the excitement of the chase, he was becoming a pirate himself, and liked it” (271).

However, the most striking example of ‘outlawry’ is provided by Adams’s grandmother Louisa, wife of ‘The President,’ John Quincy Adams. Born in London to an Englishwoman and an American merchant from Maryland, she is the personification of an alien element that somehow had ‘intruded’ into the New England line of descent of the Adams genealogy—“the old Puritan nature rebelled against change,” whereas to “outsiders, immigrants, adventurers, it was easy” (29) to rebel against “old forms of education” (30). Louisa was such an ‘outsider, immigrant, adventurer’—not born a New England woman, which “defect was serious” (22). For Adams, this turbulent disturbance of an otherwise seemingly straight line of descent makes him a “half exotic” (24) in a double sense: “As a child of Quincy he was not a true Bostonian, but even as a child of Quincy he inherited a quarter taint of Maryland blood” (24), and it is safe to assume that this constituted the charm of Adams’s beloved ‘Quincy education.’ Louisa’s impact on his education is described by Adams as immense. As a child, he “never dreamed that from her might come some of those self-doubts and self-questionings, those hesitations, those rebellions against law and discipline, which marked more than one of her descendants; but he might even then have felt some vague instinctive suspicion that he was to inherit from her the seeds of the primal sin, the fall from grace, the curse of Abel” (23). However ambiguous this inheritance might have seemed to the child Henry Adams, in the adult’s rhetoric of heredity, as he sets it up from the very first pages of his *Education*, this inheritance is almost explicitly connected to his version of the Virgin Mary—it might in fact be read as a clue that his outsider position is effected by that “quarter taint of *Maryland* blood.”

It becomes clear that the Virgin, Adams’s prime example of ‘unity,’ is not ‘orderly’ at all: the Virgin is not a symbol of perfection [indeed, she is anything but], though she has been repeatedly read as such. Unity and multiplicity, order and chaos, are not clearly separated entities. In fact, Adams sees Louisa as clearly connected to those same ‘lawless impulses’ that he had somehow inherited from her, “The Madam” (21). The heretical impact of the Virgin can be found in Adams’s *Mont Saint Michel and Chartres*—here Adams reveals that “the Virgin embarrassed the Trinity . . . Mary concentrated in herself the whole rebellion of man against fate; the whole protest against divine law; the whole contempt for human law as its outcome; the whole unutterable fury of human nature beating itself against the walls of its prison house, and suddenly seized by a hope that in the Virgin man had found a door of escape. She was above law” (596). In contrast to the cruel

regiment of the law, Mary dwelled in grace and “sympathy with people who suffered under law” (597). As a result, “Mary filled heaven with a sort of persons little to the taste of any respectable middle-class society” (ibid.), those immigrants, outsiders, and adventurers who were little to the taste of twentieth-century Boston bourgeois society either, but who had nevertheless somehow *infected* the Adams lineage—an infection that Adams himself considered quite benevolent: the “fluid order” (J. 81) of the Virgin resolved the rigidity of the father’s law and represented, in R. P. Blackmur’s words, a “flexibility various enough to receive and react to new impressions” (17).

Adams’s conception of the Virgin has an unmistakably Lucretian ring to it. In his famous chapter on “The Virgin and the Dynamo,” Adams quotes Lucretius’s invocation of Venus—“not one of Adams’s many schools of education had ever drawn his attention to the opening lines of Lucretius, though they were perhaps the finest in all Latin literature, where the poet invoked Venus exactly as Dante invoked the Virgin: “*Quae quoniam rerum naturam sola gubernas*” (*Education* 365; “Since you *alone* govern the nature of things”). Venus was not only, as Adams suggests, a model for Dante’s invocation of the Virgin, but also Adams’s own infatuation—in fact, just as he “translat[ed] rays into faith” (364) by drawing the analogy between the dynamo and the Virgin, Adams—and indeed the whole Christian tradition—translated the heathen goddess of love, Venus/Aphrodite, into the Christian virgin mother of Christ. For Adams, the Virgin [like Lucretius’s Venus] is the very force that creates nature *and* human culture out of chaos with “her creative touch” (Hamill 11): “She was Goddess because of her force; she was the animated dynamo; she was reproduction—the greatest and most mysterious of all energies” (H. Adams, *Education* 365). However, as Adams laments, “in America neither Venus nor Virgin ever had value as force” (364); in fact “this energy was unknown to the American mind” (365). In connection with Adams’s discussion of unity and multiplicity, order and chaos [and their interrelation], the reference to Venus/the Virgin genders chaos and multiplicity: forceful disorder is female and is related to sexuality as a scandal, an “unmoral force” (366). Ultimately, sexuality, reproduction, growth, the Many—life—are posed against the logic of the One. No wonder, then, that Adams can spot only some vestiges of that intense force in art: “He could think only of Walt Whitman; Bret Harte, as far as the magazines would let him venture; and one or two painters, for the flesh-tones. All the rest had used sex for sentiment, never for force” (366).

Serres’s reading of Lucretius provides an obvious reference for Adams’s invocation of Venus. Serres has argued that Lucretius’s poem *De Rerum Natura* did indeed anticipate modern science, in particular modern physics and chaos theory. According to Serres, Lucretius’s idea of the *clinamen* can

be read as an infinitesimally small deviation that induces a slight turbulence in the eternal fall of the atoms. The impact of the *clinamen* anticipates the sensitive dependence on initial conditions that plays such an important role in chaos theory and complexity theory. As such, this turbulence “interrupts the reign of the same, invents the new reason and the new law . . . gives birth to nature as it really is” (*Hermes* 100). What this “new law” of multiplicity replaces is the logic of unity, which is “repetitive, and the train of thought that comes from it infinitely iterative, is but a science of death” (*ibid.*). It was such a “science of death” that Adams saw in Darwin’s theory of evolution, a theory that should have made sense of family trees, heredity, and genealogy and its vicissitudes, as Adams experienced them, on a macroscopic and universal level—but which, in Adams’s view, ultimately failed.

When Darwin published his seminal study *On the Origin of Species* in 1859, it had a wide impact not only on the natural sciences, but on society as a whole. The church in particular was offended by a theory that attempted to explain creation by tracing man back not to God, but to a monkey. Above all, Darwin himself was a theologian turned scientist, a fact that made things worse since it branded Darwin as a heretic. However, even if the theory of evolution found wide acceptance, the rigid causal mechanics of his theory was too neat for Adams: “Unbroken Evolution under uniform conditions pleased everyone—except curates and bishops—and it was the very best substitute for religion; a safe, conservative, practical, thoroughly Common-Law deity” (*Education* 217). The emphasis here is on the word *uniform*—for Adams, the very concept of something rigidly linear had something oppressive to it, and resulted in a “science of death” that deserved such a label not only on a metaphorical level. He cynically adds: “Such a working system for the universe suited a young man who had just helped to waste five or ten thousand million dollars and a million of lives, more or less, to enforce unity and uniformity on people who objected to it; the idea was only too seductive in its perfection” (*ibid.*). Although “steady, uniform, unbroken evolution from lower to higher seemed easy” (218), Adams was deeply dissatisfied with the idea of gradual evolution in Darwin’s theory. Against this all-too-smooth theory of heredity, “Adams hinted his heresies in vain” (219), heresies that were in part influenced by the countertheories of the ‘catastrophists’ and by Louis Agassiz, a key influence on Adams’s attitude toward Darwinism, who is reported to have stated that “the possibilities of existence run so deeply into the extravagant that there is scarcely any conception too extraordinary for Nature to realize” (quoted in Heinrich 42). Unable to detect evolution ‘in life,’ “all [Adams] could prove was change” (*Education* 222), and it was indeed the idea of “change” that “attracted his mind” (223). He “wished to be shown that changes in form

caused evolutions in force” (379), something that Darwinism had failed to prove to him. A quite similar “science of death,” what Serres calls the “stable, unchanging, redundant, . . . recop[ying of] the same writing in the same atoms-letters” (*Hermes* 100), Adams saw revealed in the principles of [Bostonian] bourgeois education. In line with his metaphor for education [the cut, or stamp, which implies an almost mechanical, assembly-line form of education], Adams repeatedly comments on what he calls “education, but in the type” (*Education* 39). In his chapter “Harvard College,” Adams observes that “the school created a type, not a will,” and as a result, “its graduates could commonly be recognized by the stamp” (57). Even in his childhood, his brothers and sisters were becoming “modes or replicas of the same type, getting the same education” (39). Against this background, Adams preferred to self-construct himself as different: whereas “his brothers were the type; he was the variation” (12).⁶

In his rhetoric of “type” and “variation,” the discourses of heredity and education get intertwined in Adams’s text again and again: as Adams himself states, “his education was chiefly inheritance” (30). The story of education gets mixed up with the story of evolution and longs for a story of mutation. And it is here, I argue, that later developments in Darwinism and genetics might have provided Adams with the powerful metaphor of *mutation* that is always lurking in the back of his text, but that never is clearly expressed. Later in his book, Adams acknowledges that “any doctrine seemed orthodox . . . A little more, and he would be driven back on the old independence of species” (379) which at least accounted for “variety.” In line with his recurrent emphasis on lawlessness and play, Adams presumably would have embraced the *Mutationstheorie* proposed by the Dutch biologist Hugo de Vries in the early twentieth century. De Vries, rediscovering the Mendelian laws of heredity, had pointed out “the role of ‘sports’ or mutations, sudden and drastic variants in individual organisms, in the process of adaptation” (R. Hofstadter, *Social Darwinism* 97). In pointing out the abrupt and often catastrophic character of evolution, de Vries introduced a “strong contrast to the slow, legato, and minuscule variations of Darwin’s evolution” (*ibid.*). It was up to still later developments in biology and genetics to show that such a *mutation* is in fact not the *accidental exception* to the rule, but a *coextensive part* of it. The reason both de Vries and Adams have a problem with accepting natural selection is that they regard it as ultimately conservative, eliminating only negative mutations and lacking the productive force needed to create entirely new organisms. De Vries came up with a concept that integrated the occurrence of sudden changes—leaps—in the traits of a cell that were not caused by common genetic recombination of traits and that led to new species, to aberrant varieties that

he called “mutations.” This observation changed the understanding of the workings of evolution by emphasizing spontaneous mutation as a creative principle and a source of discontinuity in evolutionary change. In opposition to the prevailing Darwinian idea that species slowly and gradually evolve into new ones, with natural selection steering evolution in the favorable direction of the survival of the fittest, evolution came to be seen as a two-step process of the chance occurrence of a mutation, followed by its persistence or elimination (selection). Even in its variant form, natural selection is still seen as the sole force and agent in evolution—everything in the natural world can ultimately be explained by mutations within the genome and the subsequent selection of the fittest adaptation by the environment, a gradual process that is completely reliant on external conditions.

Yet de Vries’s findings, alongside with his rediscovery of Mendel’s laws, prepared the ground for the development of genetics and molecular biology. In his account of the discoveries of molecular biology, *Chance and Necessity*, Jacques Monod emphasizes the role of chance in evolution. In his study, Monod comments on the fact that Darwinism has been awaiting a “*physical theory of heredity*” (xi) to counter metaphysical explanations, in order to clarify man’s position in and relationship with the universe [the title of this chapter is a mutation of Monod’s phrase]. The theory of the genetic code provided exactly this: heredity depends on “long messages written with a four-letter alphabet” (Ruelle 6). In this, it does not differ much from the “science of death” that Serres commented on, the endless reproduction of the same “atoms-letters.” However, there is one important twist: “When cells divide, these messages are copied, with a few errors made at random; these errors are called *mutations*” (ibid.).

According to Monod, the “*physical theory of heredity*” is marked by a kind of heretical aberration from the law, by a few errors made at random. It is exactly the intrusion of chance into necessity [that is, the intrusion of a ‘reading mistake’ of the information that normally ensures the exact reduplication of the genetic material] that causes the diversity of the species: “We call these events accidental; we say that they are random occurrences. And since they constitute the *only* possible source of modifications in the genetic text, itself the *sole* repository of the organism’s hereditary structures, it necessarily follows that chance *alone* is at the source of innovation, of all creation in the biosphere. Pure chance, absolutely free but blind, at the very root of the stupendous edifice of evolution: this central concept of modern biology is no longer one among other possible or even conceivable hypotheses. It is today the *sole* conceivable hypothesis” (*Chance and Necessity* 112–13). *Chance and Necessity* shares with Adams’s *Education* not only an emphasis on the importance of chance and ‘play’ with regard to the concept of laws

and rules, but also some key metaphors. Like Adams's outlaw and pirate, Monod's subject is "a gypsy, [who] lives on the boundary of an alien world" (172–73), a world marked by the "definitive abandonment of the 'old covenant'" (171), facing the "necessity of forging a new one" (ibid.). Thus, for Monod, it is absolute randomness, the "side-paths" that introduce a degree of freedom from the rigid deterministic order of natural selection: "The ancient covenant is in pieces; man knows at last that he is alone in the universe's unfeeling immensity, out of which he emerged only by chance. His destiny is nowhere spelled out, nor is his duty" (180). Such a foregrounding of randomness *only*, against natural selection *only*, misses the complex interplay of chaos and order, multiplicity and unity. It still assumes a binary opposition between two extremes and does not focus on the *in between*, where chaos and order meet. It is here that I suggest a return to Venus.

For Serres, Venus is an important conceptual persona, figuring prominently in both *The Birth of Physics* and *Genesis*. She becomes the icon for a new kind of science—the "physics of Venus" [Serres's name for complexity theory] (*Birth of Physics* 110), the antidote to what he sees as the physics of Mars, a science for a world without *clinamen* [and without newness], where "the new is born of the old, the new is just the repetition of the old" (109).⁷ The science of Mars sees matter as passive and sees the connection between man and matter—between Adams's clothed manikin and the "certain form of energy"—as irretrievably broken. In what almost sounds like a direct reply to Monod's "ancient covenant . . . in pieces," Serres states that "many . . . sciences are founded . . . on the violation of the contract. Man is a stranger to the world, to the dawn, to the sky, to things . . . His environment is a dangerous enemy to be fought and kept in servitude. Martial neuroses" (131). However, Lucretius, following Epicurus, sees the world as an ever-changing, open system, in which order arises out of chaos, in which matter is self-organizing because of its complexity. Here "man is in the world, in matter and of matter. He is not a stranger, but a friend, a familiar, a companion and an equal. He maintains an Aphroditean contract with things" (ibid.).

The ultimate reason why for Adams an "American Virgin would never dare command; an American Venus would never dare exist" (*Education* 365) lies in Serres's observation that "groupings . . . seem to enjoy a bit of the status of Being only when they are subsumed beneath a unity . . . We want a principle, a system, an integration" (*Genesis* 2)—exactly what Adams feels has been lost in the America after the Civil War. Ultimately, "the laws of Venus-nature are indecipherable to the children of Mars" (Serres, *Birth of Physics* 108). However, in order to accept multiplicity, and the intricate interplay of chaos and order, "the physics of Venus [have to be] chosen over

that of Mars,” a physics in which “turbulence . . . troubles the flow of the identical, just as Venus disturbs Mars” (110). Simply because we want a unity, “we always see Venus without the sea; or the sea without Venus” (*Genesis* 18), whereas in fact Venus and the sea [unity and multiplicity] are intimately linked: “Venus . . . is not transcendent, like the other gods, she is immanent to this world, she is the being of relation” (*Birth of Physics* 123)—order is not transcendent to multiplicity, but coextensive with it. Thus, “we turn away from the waves to admire the wave-born” (*Genesis* 2), when instead we should ask the important question “how is Venus born from the sea . . .? How are forms born from the formless” (26)?

For Deleuze, Lucretius’s “hymn to Venus-nature” is a hymn to multiplicity, to “Nature as the production of the diverse . . . [to a] sum which does not totalize its own elements” (*Logic of Sense* 267). Nature—life—according to Venus “is not attributive, but rather conjunctive . . . Harlequin’s cloak, made entirely of solid patches and empty spaces; she is made of plenitude and void, beings and nonbeings,” and not a totalizing “Being, the One and the Whole” (267). For Adams, to believe in a totalizing whole and to dismiss multiplicity were exactly the “faults of the patchwork fitted on [the generation of the] fathers” (*Education* 8)—the new garment of multiplicity should rather look like Harlequin’s coat [a patchwork of *ands*] of which even the manikin itself [the former unified and transcendent *ego*] is a part. As Serres puts it, “le moi est un corps mêlé . . . Voilà que revient le manteau d’Arlequin, cousu d’adjectives, je veux dire de termes placés côte à côte.”⁸ Order and chaos, side by side—*and*, not *either/or*: nature is “a chaotic multiplicity of orderly or unitary multiplicities and chaotic multiplicities” (Serres, *Genesis* 110). And the individual is part of that turbulence; it is an open, dynamic system as well. For Deleuze, the individual is not a fixed form but “collections of sensations, each is such a collection, a packet, a bloc of variable sensations” (Deleuze and Parnet, *Dialogues* 39–40), or in Adams’s words, “a bundle of disconnected memories” (*Education* 202). The ego is not so much a transcendent unity as it is “a bicycle-rider, mechanically balancing himself by inhibiting all his inferior personalities”—the individual is regarded as “complex groups, like telephonic centres and systems” (411). The focus on the interplay of order and chaos [ultimately, of order born from chaos] has far-ranging consequences for the theory of evolution as well. If Adams dismisses doctrines of “sudden conversions, due to mere vital force acting on its own lines quite beyond mechanical explanation” (379), it is because he cannot accept suddenness—mere randomness and chance—as a satisfying explanation for evolution. Such a doctrine, as Deleuze points out in a discussion of evolutionism and biology, would “conceive of existence as a brute eruption, a pure act or leap which always occurs behind our

backs and is subject to a law of all or nothing” (*Difference and Repetition* 211). The creativity and productivity of evolution cannot be reduced to the production of identical members of the species, with the occasional random mutation to account for variety—evolution as production cannot be reduced to a negativity, to a simple response to external selection, but must follow a different dynamics. As Deleuze says, it cannot “proceed by elimination or limitation, but must *create* its own lines of actualization in positive acts” (*Bergsonism* 97). Darwin, Deleuze acknowledges, inaugurated “the thought of individual difference. The leitmotiv of *The Origin of Species* is: we do not know what individual difference is capable of!” (*Difference and Repetition* 248). But natural selection puts a halt to this experimentation and ‘fixes’ certain differences. In contrast to the Darwinist doctrine of differences that are ultimately created externally only, by the pressure of natural selection, Deleuze posits virtualities, ‘internal differences’—that is, he argues that function is the ‘driving force’ of evolution, so that mutations are not accidents that befall evolution but are the result of a multiplicity in matter itself from which order is created by self-differentiation. Every species, even every individual, is a fixation and arresting of that movement of multiplicity, but regarded as an a priori unity—just like the figure/body of Venus-without-sea. The question “What is the formula for this ‘evolution’?” (255) becomes important. Deleuze’s answer is that, for a complex system, “the more the difference on which the system depends is interiorized in the phenomenon, . . . the less it depends on external conditions which are supposed to ensure the reproduction of the ‘same’ differences” (256).

Here Deleuze comes close to a conception that complexity theory has brought to modern biology. As the biologist Brian Goodwin has stated, “we could, if we wished, simply replace the term natural selection by dynamic stabilization, the emergence of the stable states in a dynamic system” (51). The theoretical biologist Stuart Kauffman goes even further in claiming that order in evolution is not the result of natural selection, as orthodox Darwinism would have it, nor is evolution due to mere accident—order is achieved by the self-organizing dynamics of matter’s internal multiplicity of differences. The emergent properties of self-organization are “so profoundly immanent in complex regulatory networks that *selection cannot avoid that order*” (*Origins* xvii)—the molecular variants produced by evolution provide “order for free” (*At Home* 71), order emerges immanently. Kauffman aims at a theory of evolution that “incorporates self-organization into the weave of evolutionary theory” (*Origins* vii). For him, natural selection cannot be the only source of order in organisms, but order is also too prevalent to be a result of chance only, as Monod would have it. Thus, Kauffman examined Monod’s ‘chance’ for underlying, ‘orderly’ behavior—and found it. For an

organism to work, Kauffman claims, “there’d have to be an extraordinary amount of selection to get things to behave with reliability and stability. It’s not clear that natural selection could ever have gotten started without some preexisting order. You have to have a certain amount of order to select for improved variants” (“Order for Free” 336). Selection builds on the emergent properties generated by self-organization and stabilizes them. For Kauffman, “selection achieves and maintains complex systems poised on the boundary, or edge, between order and chaos. These systems are best able to coordinate complex tasks and evolve in a complex environment” (*Origins* xv). The self-organizing dynamics intrinsic to evolution follow a different logic than that of natural selection, but not completely unrelated to it. As a consequence, for Serres, the individual who emerges out of this Venusian physics arises, wave-born, out of a turbulent nature that “is a multiplicity of local unities and of pure multiplicities,” a Harlequin’s coat that is coextensive with the Harlequin-manikin of the individual body—“my body, my corporeal-order, my corporeal-disorder, life and death, perhaps it is after all, too, only a temporary turbulence, linking up smaller turbulences, in a unitary, though ramshackle, fashion” (*Genesis* 110). Ultimately, then, compared to Monod’s notion of man as a “gypsy . . . on the boundary of an alien world,” because of the fact that evolution is as dependent on chance as on an underlying order, a turbulent order that in fact is born from chaos, Kauffman can see man “at home in the universe” (*At Home* 189). Adams himself seems to anticipate [or wish for] such an “Aphroditean contract” based on the turbulence in both nature *and* man. In the final paragraph of *The Education of Henry Adams*—a paragraph that has puzzled critics because it comes unexpectedly and because its conciliatory character stands in marked contrast to the rest of the text [and to the times that followed], a paragraph that almost is an emergence of newness from within the text—Adams hopes that “perhaps some day—say 1938, their centenary—they [Adams, John Hay, and Clarence King] might be allowed to return together for a holiday, to see the mistakes of their own lives made clear in the light of the mistakes of their successors; and perhaps then, for the first time since man began his education among the carnivores, they would find a world that sensitive and timid natures could regard without a shudder” (*Education* 476–77). As already noted, Adams’s rhetoric of “type” and “variation” also has to be read with regard to the Body|Politic. In the type’s proliferation of ‘the same,’ such a Body|Politic resembles what Deleuze|Guattari call the “cancerous BwO” (*Thousand Plateaus* 163) with its “totalitarian and fascist” (165) nature. According to John Protevi, the cancerous BwO is a “runaway self-duplication of stratification. [It] breaks down the stratum on which it lodges by endlessly repeating the selection of homogenized individuals in a runaway process

of ‘conformity.’ Social cloning. Assembly-line personalities” (“A Problem” 171–72). Adams voices a similar concern when he envisions a pessimistic future of a society “reserved for machine-made, collectivist” (*Education* 423) individuals—a cancerous B[ody|Politic]wO. Just like Deleuze|Guattari’s Kafka, Adams sensed the “*diabolical powers that are knocking at the door*” (*Kafka* 41), be it the “American technocratic apparatus or the Russian bureaucracy or the machinery of fascism” (12). With regard to the theory of evolution, in which the outcome is never predictable, these “diabolical powers” are not a chance mutation, an accident that befalls an otherwise smooth evolution process, but virtual vectors already at work in the Body|Politic that are actualized only later. The result of such a development, for Adams, is ultimately entropic,⁹ since ‘machine-like types’ “brought up together under like conditions have nothing to give each other” (*Education* 58).¹⁰ The maximum state of entropy in a closed system results in a complete lack of exchange energy, and as a consequence in a lack of care, sympathy, and grace—exactly those virtues the Virgin|Venus [and thus complexity and multiplicity] stand for, and what Adams connects with an ‘ideal democracy’ as a tendency to counter this process of degradation, a strategy that ultimately refers, in the words of Deleuze|Guattari, to a “becoming-democratic that is not the same as what States of law are” (*What Is Philosophy?* 113).

Kauffman has pointed at the possibilities of complexity theory for “a deep new understanding of the logic of democracy” (*At Home* 28), a democracy as a politics of self-organization, evolving as a response to problems and conflict—quite similar to Robert Axelrod’s approach, which I outlined in my introductory chapter. Democracy is regarded as an inherently ‘experimental’ politics, played out in the space in between conflicting orientations and opinions of individuals and/or groups—a rhizomatic multiplicity rather than a controlling unity. For Adams, “there are moments in politics when great results can be reached only by small men,—a maxim which, however paradoxical, may easily be verified. Especially in a democracy the people are apt to become impatient of rule, and will at times obstinately refuse to move at the call of a leader, when, if left to themselves, they will blunder through all obstacles, blindly enough, it is true, but effectually” (*Life of Gallatin* 432). Thus, ultimately, only the force of a *becoming-minor* can effectuate changes in the Body|Politic. Although Adams simultaneously expresses the convictions of a believer in American democracy and points toward its limitations, for him, the democratic Body|Politic ultimately moves in the direction not of entropic degradation, but toward complexity—the rising action of Adams’s *History* had focused on the emergence of American democracy in a highly affirmative tone. Adams here is in accord with Spencer, who claims that a Body|Politic changes from a simple structure to a “continually-

increasing complexity of structure” (201). And although Spencer’s social Darwinism [his philosophy of social evolution in fact predated Darwin’s biological evolution] is ultimately responsible for the laissez-faire capitalism that so troubled Adams’s faith in real, existing American democracy, the question of authority and control in the Body|Politic is also at the heart of Adams’s musings. Spencer’s use of the Body|Politic concept differs markedly from its employment by Plato and Hobbes, for example, in that it focuses on coordination versus control; diffused sources of order versus one source of order; and a bottom-up versus a top-down organization. The fundamental problem with the traditional metaphor of the Body|Politic, for Spencer, was that Plato and Hobbes not only likened the Body|Politic “simply to the organization of a living body in general, but to the organization of the human body in particular” (200),¹¹ and that it was “explained on the hypothesis of manufacture, rather than that of growth” (195).¹² Spencer’s critics were quick to point out an apparent contradiction in the analogy of the freely growing social organism: the analogy itself implied a central control. The political scientist Ernest Barker sums up the dilemma: “An organism is a unity with a nerve-centre; that nerve centre regulates the whole body; and of a sudden the ‘growing’ organism which should not be regulated becomes a bureaucratic or socialistic state under control of the central brain. Starting with a conception of organic growth intended to justify individualism, Spencer ends with a conception of organic unity which tends to justify socialism” (*Political Thought in England* 96). Yet Spencer, with the help of modern science, deals with the problem of order and authority as related not to ‘manufactured’ political individualism, but to biological individuality. Ultimately, he asks if an individual’s ‘order’ [or ‘unity’] results from the subordination of its constitutive ‘elements’ [cells, or individuals respectively] to a controlling agency, or rather from the interaction of those very elements. Critics who claim there is a contradiction in Spencer’s work argue from the perspective of an organism regulated by a nervous center that controls the rest of the body. But Spencer sees the sources of ‘nervous authority’ as diffused as he believed the sources of political authority ought to be: “In some of the lowest animals, characterized by the absence of a nervous system, such sensitiveness as exists is possessed by all parts” (205).¹³ Thus, for Spencer, the Body|Politic has not evolved by divine providence or by the control of ‘central’ lawmakers, and its organizations are “neither supernatural, nor are they determined by the wills of individual men” (196). On the contrary, they are the result of growth, of “general natural causes.” The Body|Politic, a “complex body of mutually dependent” ‘elements,’ has “spontaneously evolved” (*ibid.*) because of the increasing complexity of its structure.¹⁴

The increase of complexity, the tendency of a democratic evolution—of democracy *as* evolution—is also the topic of Adams’s anonymously published novel *Democracy*.¹⁵ In this novel, Nathan Gore, a Massachusetts historian, is asked if he thinks “democracy the best government” (37), and he replies: “I believe in democracy. I accept it. I will faithfully serve and defend it. I believe in it because it appears to me the inevitable consequence of what has gone before it. *Democracy asserts the fact that the masses are now raised to a higher intelligence than formerly. All our civilisation aims at this mark. We want to do what we can to help it. I myself want to see the result. I grant it is an experiment, but it is the only direction society can take that is worth its taking; the only conception of its duty large enough to satisfy its instincts; the only result that is worth an effort or a risk. Every other possible step is backward, and I do not care to repeat the past. I am glad to see society grapple with issues in which no one can afford to be neutral*” (36, my emphasis). Kauffman voices a similar hope when he says that “democracy may be far and away the best process to solve the complex problems of a complex evolving society” (*At Home* 28).¹⁶ If democracy is understood as a complex interplay of chaos and order, as a Body/Politic emerging from self-organizing properties, it makes sense that Adams, in his novel, refers to the “slowly eddying dance of democracy” (*Democracy* 43)—in his histories, he sees democracy as a dance of eddies in a “democratic ocean” (*History Madison* 1334), as small islands of stability emerging out of turbulence.

The rise of modern mass democracy went hand in hand with the fall of politics as statecraft in the old sense. Whereas the politics of republican statecraft had been related to virtuous leaders, the new American political character was one of a virtual democracy in the Deleuzian sense of the word, its potentiality related to its underlying multiplicity of forces [individual, economical, institutional, etc.]: “Modern politics is, at bottom, a struggle not of men but of forces. The men become every year more and more creatures of force, massed about central power-houses. The conflict is no longer between the men, but between the motors that drive the men, and the men tend to succumb to their own motive forces” (H. Adams, *Democracy* 400).¹⁷ However, for Adams, the question arises if there is an alternative to either the ‘Old Unity’ [the republic of the founding fathers, irreversibly lost] or the ‘New Multiplicity’ [modern democracy as ultimately disorganized and corrupt]. Kauffman comments on a similar problem in scientific terms when he claims that “eighteenth-century science, following the Newtonian revolution, has been characterized as developing the sciences of organized simplicity, nineteenth-century science, via statistical mechanics, as focusing on disorganized complexity, and twentieth- and twenty-first-century science as

confronting organized complexity. Nowhere is this confrontation so stark as in biology” (*Origins* 173). This describes Adams’s dilemma perfectly, and Adams was looking for solutions in evolution theory, solutions that Darwinism could not offer, because it was still embedded in that dichotomy between “organized simplicity” and “disorganized complexity,” which Adams could make sense of only as a movement that was blind, but effective.

Adams was hoping for an alternative to the strategy of “running order through chaos, direction through space, discipline through freedom, unity through multiplicity” (*Education* 17); to external control, “the despotism of artificial order which nature abhorred” (433); and to the fear of multiplicity as mere disorder. Adams senses that the “conservative Christian anarchist [Adams himself] could have no associate, no object, no faith except the nature of nature itself” (386)—and this “larger synthesis” (*ibid.*) was validated not by Hegel, but by the findings of an emerging new science. It can be argued that Adams’s work at times comes close to accepting a downward determinism: he is concerned with *entropy* to almost hysterical dimensions, as *The Education*’s chapter “A Dynamic Theory of History” and essays such as “The Tendency of History” [1894], “The Rule of Phase Applied to History” [1909], and “A Letter to American Teachers of History” [1910] reveal. These essays are Adams’s attempt to come up with a theory of history in congruence with the science of his times. If unity is lost in the new ‘multiverse,’ the only option for Adams seems to have been the acceptance of “disorganized complexity.”¹⁸ However, he also senses that taming the multiplicity, which has been the “task of education, as it is the moral of religion, philosophy, science, art, politics, and economy” (*Education* 17), cuts off the connection to life and production, to that “certain form of energy.” Thus, against the “despotism of artificial order” and the “science of death,” of entropy’s repetition of sameness and identity, Adams posits both a “prudent hopefulness” (Levenson 93) for democracy, as voiced in the comments of Mrs. Madeleine Lee and Nathan Gore in *Democracy*, and his hope for “another Newton” (*Degradation* 263) to find a way out of entropic determinism, to open the way for “organized complexity.”

According to Deleuze, the concept of entropy, in its tendency to reduce difference and to unitize differences, expresses “a strange alliance at the end of the nineteenth century between science, good sense and philosophy. Thermodynamics was the powerful furnace of that alloy” (*Difference and Repetition* 223). The concept of entropy was based on a set of common-sensical definitions, such as “the given as diverse; reason as a process of identification and equalisation tending towards identity; the absurd or irrational as resistance of the diverse to that identificatory reason” (223–24). Against this *repetition of sameness*, Deleuze posits a *repetition of difference*, which

amounts to exactly the notion of ‘organized multiplicity’ that Adams was too early in history to be able to appeal to:

When we seek to define *energy* in general, either we take account of the extensive and qualified factors of extensity—in which case we are reduced to saying ‘there is something which remains constant,’ thereby formulating the great but flat tautology of the Identical—or, on the contrary, we consider pure intensity insofar as it is implicated in that deep region where no quality is developed, or any extensity deployed. In this case, we define energy in terms of the difference buried in this pure intensity and it is the formula of ‘difference of intensity’ which bears the tautology, but this time the beautiful and profound tautology of the Different. Energy in general will not then be confused with a uniform energy at rest, which would render any transformation impossible. Only a particular form of empirical energy, qualified in extensity, can be at rest; one in which the difference in intensity is already cancelled because it is drawn outside itself and distributed among the elements of the system. (240–41)

Like orthodox Darwinism, the concept of thermodynamic entropy allowed nature to become an object of prediction—the second law of thermodynamics “provides a rule according to which . . . different objects tend to equalise themselves and the different Selves tend to become uniform” (226). However, it is inadequate as a concept both because it deals only with closed systems in equilibrium, and because it [mis]takes the conditions of such a system for the intensity itself. Thus, the ‘organized multiplicity’ that counters thermodynamics is in fact a ‘self-organized multiplicity,’ the production of intensity being a result of limmanent to [extensive] entropic processes, including the generation of “structural stability and morphogenesis” [René Thom’s phrase] that governs the creation of organisms. Deleuze envisions a physics based on becoming and heterogeneity rather than being [stable identity] and homogeneity. Adams, in his parallelization of biology and politics, biological and democratic evolution, sensed that the “movement from unity into multiplicity . . . would require a new social mind” (*Education* 470) as well. He sensed the politics needed for a “democratic ocean” (*History Madison* 1334), but in his account of things, “man could go no further. The atom might move, but the general equilibrium could not change” (1334–35). He could not believe that states far from equilibrium, on the edge of chaos, could not make what Serres calls the shift from *turba* to *turbo*, from *turbulence* to the *vortex*—“the first is simply disorder and the second is a particular form of movement” (*Birth of Physics* 28), but, since order may emerge out of chaos, the two are one.¹⁹ For Serres, the cone, or the top, a children’s toy, is a perfect illustration for this vertical movement that is both stable and unstable, order and disorder—“the simplicity of complexity, first and

foremost, an additive machine; a synthesis of contradictions” (29). Maybe Adams envisioned something similar when he further described the “new social mind” by claiming that “evidently the new American would need to think in contradictions” (*Education* 470), in terms of difference and heterogeneity rather than unity and homogeneity.

If ‘the Different’ was more active than ‘the Identical,’ if multiplicity was ‘more fundamental’ than unity, then the represented multitude was more important than the representers, the social more important than the ‘political proper.’²⁰ At the beginning of *Democracy*, the central character with political aspirations, Mrs. Madeleine Lee, a wealthy young widow, wants “to see with her own eyes the action of primary force . . . She was bent upon getting to the heart of the great American mystery of democracy and government” (*Democracy* 4–5). This “primary force,” this “motive power” (5), is seen as the consequence of a “clash of interests, the interests of forty millions of people and a whole continent, centering at Washington; guided, restrained, controlled, or unrestrained and uncontrollable, by men of ordinary mould; the tremendous forces of government, and the machinery of society, at work” (*ibid.*). However, Adams was not so sure that this “machinery” was still working. In *The Education*, he states that “the political dilemma was as clear in 1870 as it was likely to be in 1970. The system of 1789 had broken down, and with it the eighteenth-century fabric of *a priori*, or moral, principles . . . Nine-tenths of men’s political energies must . . . be wasted on expedients to piece out,—to patch,—or, in vulgar language, to tinker,—the political machine as often as it broke down. Such a system, or want of system, might last centuries, if tempered by an occasional revolution or civil war; but as a machine, it was, or soon would be, the poorest in the world,—the clumsiest,—the most inefficient” (268–69). According to Adams, “the sum of political life was, or should have been, the attainment of a working political system. Society needed to reach it. If moral standards broke down, and machinery stopped working, new morals and machinery of some sort had to be invented” (*ibid.*). However, to accept corruption—the very absence of morals—as the “new morals” that made the ‘new machinery’ work, was out of the question. In an article written on the occasion of the 1869 gold scandal and Black Friday, Adams pointed out the dangers of emerging capitalism for a democratic system:

For the first time since the creation of these enormous corporate bodies, one of them has shown its power for mischief, and has proved itself able to override and trample on law, custom, decency, and every restraint known to society, without scruple, and as yet without check. The belief is common in America that the day is at hand when corporations far greater than the Erie—swaying

power such as has never in the world's history been trusted in the hands of private citizens, controlled by single men like Vanderbilt, or by combinations of men like Fisk, Gould, and Lane, after having created a system of quiet but irresistible corruption—will ultimately succeed in directing government itself. Under the American form of society no authority exists capable of effective resistance. The national government, in order to deal with the corporations, must assume powers refused to it by its fundamental law,—and even then is exposed to the chance of forming an absolute central government which sooner or later is likely to fall into the hands it is struggling to escape, and destroy the limits of its power only in order to make corruption omnipotent. Nor is this danger confined to America alone. The corporation is in its nature a threat against the popular institutions spreading so rapidly over the whole world. Wherever a popular and limited government exists this difficulty will be found in its path; and unless some satisfactory solution of the problem can be reached, popular institutions may yet find their existence endangered. (“New York Gold Conspiracy” 365–66)²¹

Maybe, ultimately, the “new morals” that had to be invented were not to be found in the government, but rather in ‘the governed.’ In a move similar to Spinoza’s distinction between *potentia* [force, strength, creative activity] and *potestas* [command, authority], Adams’s narratorial voice slightly criticizes Mrs. Lee precisely for confusing “the force of the engine . . . with that of the engineer, the power of the men who wielded it” (*Democracy* 5)—a criticism that might also be a self-criticism. By concentrating on the ruling elite, the ‘representers’ [e.g., Jefferson and Madison in Adams’s histories], Adams had concentrated on the fittest, the ‘great men’ that were most able to represent ‘the people.’ However, when the representers cut their connection to the multitude on which their ‘survival’ depends, the multitude that already provides autopoietic ‘order for free,’ and when they themselves mistake the *potentia* of the engine for the *potestas* of the engineer, this leads to self-interest and corruption, exactly those traits in modern democracy that Adams so vehemently despises. As he puts it quite cynically in his novel, “democracy, rightly understood, is the government of the people, by the people, for the benefit of Senators” (14)—in particular for the benefit of Senator Ratcliffe, the corrupt politician in the novel. Mrs. Lee sees that a return to that *potentia* is necessary, that her desire for power [*potestas*] and control is ultimately at war with democracy itself. Like Adams, she has hopes that the *potentia* of the multiplicity/multitude provides ‘order for free’ from which a more stable order might arise: “Underneath the scum floating on the surface of politics, Madeleine felt that there was a sort of healthy ocean current of honest purpose, which swept the scum before it, and kept

the mass pure” (96). At the end of *Democracy*, she turns her back to Washington: “She had got to the bottom of this business of democratic government, and found out that it was nothing more than government of any other kind. She might have known it by her own common sense, but now that experience had proved it, she was glad to quit the masquerade” (166). Instead she turns “to the true democracy of life, her paupers and her prisons, her schools and her hospitals” (ibid.), to the self-organizing turbulence out of which order—albeit a different order than that of representation, control, and unity, an order ‘far from equilibrium’—arises.

Writing from the other end of the twentieth century, Gregoire Nicolis and Ilya Prigogine state in *Exploring Complexity* that “today, wherever we look, we find evolution, diversification, and instabilities. We have long known that we live in a pluralistic world in which we find deterministic as well as stochastic phenomena, reversible as well as irreversible . . . the complex processes we discover in the evolution of life or in the history of human societies” (2–3)—these observations almost sound like a direct reply to Adams’s quest. Ultimately, for Adams, the movement from unity to multiplicity would not only require a “new social mind” but a new Body|Politic as well: a transition from the founders’ republic, with a central authority and checks and balances that held ‘mob rule’ under constraint, to a democracy seen as a government of the people and by the people, a Body|Politic based on self-organization, a semistable order that arises from and does not cut off its relation to chaos, to that “certain form of energy.” The Body|Politic is the very economy of this force, and neither its control nor its representation.