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DOCUMENT A

5 Meanwhile his work at the hotel was going well. Mr. Westerhoven knew the hotel business thoroughly, took pride in the Vanderlyn, and behaved with scrupulous fairness toward every member of the staff, though he proved to have one flaw: he liked his hotel just as it was, and was indecisive over the question of costly innovations. He understood that times were changing, that steam radiators were replacing hot-air vents, that

10 room telephones were bound to replace electric buzzers, but he questioned the necessity of such changes even as he bowed, rather stiffly, to the inevitable. He seemed to enjoy hearing Martin's view of such things, as if this permitted him to maintain his opposition while passing on to his youthful secretary the responsibility for each disastrous turn to the modern. Martin, who believed that the Vanderlyn was in danger of becoming antiquated, argued that up-to-date improvements weren't luxuries but necessities of the modern hotel, though he

15 acknowledged that the spirit of a hotel was larger and more complex than technology alone could account for: people liked telephones and the new electric elevators and private toilets and incandescent lights, but at the same time, they liked old-world architecture, period furniture, dim suggestions of the very world that was being annihilated by American efficiency and know-how. People needed to be assured that they weren't missing the latest improvements, while at the same time they wanted to be told that nothing ever changed. Hence the

20 cleverness, the sheer genius, of a little invention like the electric chandelier, with its combination of Mr. Edison and the courts of Europe. To Mr. Westerhoven's objection that this was a hopeless paradox, Martin answered that that was the point: people wanted the paradoxical, the impossible, and it was the Vanderlyn's job to provide it. The solution, Martin argued, was to move in both directions at once—to introduce every mechanical improvement without fail, and at the same time to emphasize the past, especially in decor. He had seen the same idea at work

in the El trains: miles of iron girders and columns, the whole thing a masterpiece of modern engineering, the cars equipped with up-to-date running gear—but step inside those cars and you saw old-world mahogany paneling on the walls, tapestry curtains on the windows, and Axminster carpets on the floors. He had been told that the old-fashioned curtains that were hung on concealed spring rollers.

25 At night in his boyhood bed over the cigar store, beside his old chest of drawers on which stood a hand-painted photograph of himself at the age of six, a dark-haired boy with clear serious eyes, Martin thought of iron El trestles winding and stretching across the city, of department store windows and hotel lobbies, of electric elevators and streetcar ads, of the city pressing its way north on both sides of the great park, of dynamos and electric lights, of ten-story hotels, of the old iron tower near the depot at West Brighton with its two steam-driven

30 elevators rising and falling in the sky—and his blood felt a surge of restlessness, as if it were a steam train spewing fiery coalsmoke into the black night as he roared along a trembling El track, high above the dark storefronts, the gaslit saloons, the red-lit doorways, the cheap beer dives, the dance halls, the gambling joints, the face in the doorway, the sudden cry in the night.

Steven Millhauser, *Martin Dressler, The Tale of an American Dreamer* (Vintage Contemporaries, 1997, 69-71).

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DOCUMENT B

5 UNTIL the Great Exposition of 1900 closed its doors in November, Adams haunted it, aching to absorb knowledge, and helpless to find it. He would have liked to know how much of it could have been grasped by the best-informed man in the world. While he was thus meditating chaos, Langley came by, and showed it to him. At Langley's behest, the Exhibition dropped its superfluous rags and stripped itself to the skin, for Langley knew what to study, and why, and how; while Adams might as well have stood outside in the night, staring at the Milky Way. Yet Langley said nothing new, and taught nothing that one might not have learned from Lord Bacon, three hundred years before; but though one should have known the "Advancement of Science" as well as one knew the "Comedy of Errors," the literary knowledge counted for nothing until some teacher should show how to apply it. Bacon took a vast deal of trouble in teaching King James I and his subjects, American or other, towards the year 10 1620, that true science was the development or economy of forces; yet an elderly American in 1900 knew neither the formula nor the forces; or even so much as to say to himself that his historical business in the Exposition concerned only the economies or developments of force since 1893, when he began the study at Chicago.

15 Nothing in education is so astonishing as the amount of ignorance it accumulates in the form of inert facts. Adams had looked at most of the accumulations of art in the storehouses called Art Museums; yet he did not know how to look at the art exhibits of 1900. He had studied Karl Marx and his doctrines of history with profound attention, yet he could not apply them at Paris. Langley, with the ease of a great master of experiment, threw out of the field every exhibit that did not reveal a new application of force, and naturally threw out, to begin with, almost the whole art exhibit. Equally, he ignored almost the whole industrial exhibit. He led his pupil directly to the forces. His chief interest was in new motors to make his airship feasible, and he taught Adams the astonishing 20 complexities of the new Daimler motor, and of the automobile, which, since 1893, had become a nightmare at a hundred kilometres an hour, almost as destructive as the electric tram which was only ten years older; and threatening to become as terrible as the locomotive steam-engine itself, which was almost exactly Adams's own age.

25 Then he showed his scholar the great hall of dynamos, and explained how little he knew about electricity or force of any kind, even of his own special sun, which spouted heat in inconceivable volume, but which, as far as he knew, might spout less or more, at any time, for all the certainty he felt in it. To him, the dynamo itself was but an ingenious channel for conveying somewhere the heat latent in a few tons of poor coal hidden in a dirty engine-house carefully kept out of sight; but to Adams the dynamo became a symbol of infinity. As he grew accustomed to the great gallery of machines, he began to feel the forty-foot dynamos as a moral force, much as the early 30 Christians felt the Cross. The planet itself seemed less impressive, in its old-fashioned, deliberate, annual or daily revolution, than this huge wheel, revolving within arm's length at some vertiginous speed, and barely murmuring — scarcely humming an audible warning to stand a hair's-breadth further for respect of power — while it would not wake the baby lying close against its frame. Before the end, one began to pray to it; inherited instinct taught the natural expression of man before silent and infinite force. Among the thousand symbols of ultimate energy the 35 dynamo was not so human as some, but it was the most expressive.

Yet the dynamo, next to the steam-engine, was the most familiar of exhibits. For Adams's objects its value lay chiefly in its occult mechanism. Between the dynamo in the gallery of machines and the engine-house outside, the break of continuity amounted to abysmal fracture for a historian's objects. No more relation could he discover between the steam and the electric current than between the Cross and the cathedral. The forces were

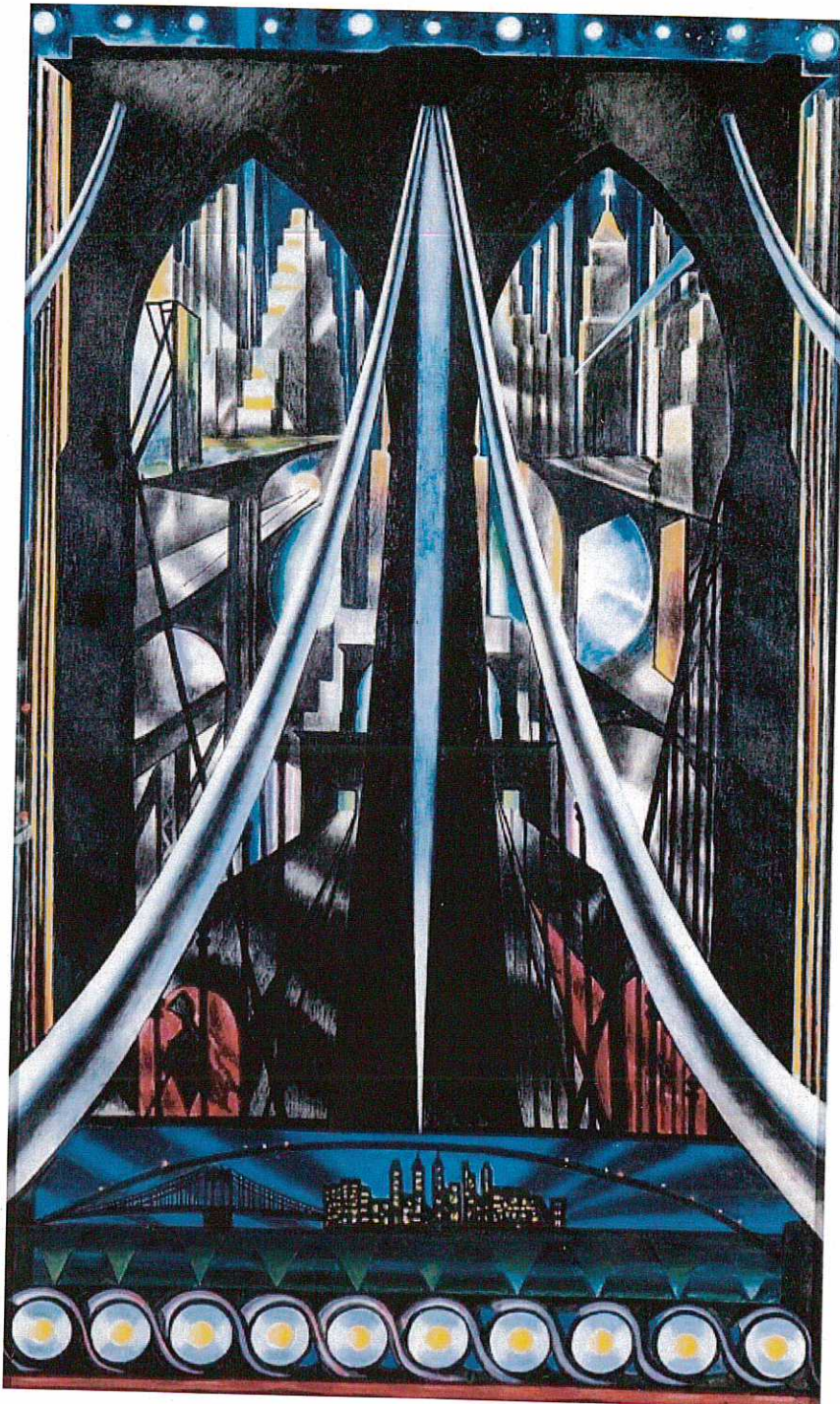
40 interchangeable if not reversible, but he could see only an absolute *fiat* in electricity as in faith. Langley could not
help him. Indeed, Langley seemed to be worried by the same trouble, for he constantly repeated that the new
forces were anarchical, and especially that he was not responsible for the new rays, that were little short of
parricidal in their wicked spirit towards science. His own rays, with which he had doubled the solar spectrum, were
altogether harmless and beneficent; but Radium denied its God — or, what was to Langley the same thing, denied
45 the truths of his Science. The force was wholly new.

A historian who asked only to learn enough to be as futile as Langley or Kelvin, made rapid progress under
this teaching, and mixed himself up in the tangle of ideas until he achieved a sort of Paradise of ignorance vastly
consoling to his fatigued senses. He wrapped himself in vibrations and rays which were new, and he would have
hugged Marconi and Branly had he met them, as he hugged the dynamo; while he lost his arithmetic in trying to
50 figure out the equation between the discoveries and the economies of force. The economies, like the discoveries,
were absolute, supersensual, occult; incapable of expression in horse-power. What mathematical equivalent could
he suggest as the value of a Branly coherer? Frozen air, or the electric furnace, had some scale of measurement,
no doubt, if somebody could invent a thermometer adequate to the purpose; but X-rays had played no part
whatever in man's consciousness, and the atom itself had figured only as a fiction of thought. In these seven years
55 man had translated himself into a new universe which had no common scale of measurement with the old. He had
entered a supersensual world, in which he could measure nothing except by chance collisions of movements
imperceptible to his senses, perhaps even imperceptible to his instruments, but perceptible to each other, and so
to some known ray at the end of the scale. Langley seemed prepared for anything, even for an indeterminable
number of universes interfused,—physics stark mad in metaphysics.

Henry Adams, *The Education of Henry Adams* [1918], Boston, Mass.: Houghton Mifflin Harcourt,
Chapter XXV, "The Dynamo and the Virgin (1900)," p. 379-380, 2000.

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Joseph Stella, *The Brooklyn Bridge: Variation on an Old Theme*, 1939, Oil on Canvas, Overall: 70 1/4 × 42 3/16 in. (178.4 × 107.2 cm), Whitney Museum of Modern Art, New York.