UNCOMFORTABLE OBJECTS
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What is the smallest event in history with the greatest consequence?

In 1669 the mathematician Blaise Pascal calculated that a mere shortening of Cleopatra’s nose could have changed history: “The nose of Cleopatra, if it had been shorter, would have changed the face of the Earth.”

Pascal was hardly alone in these speculations. In 1751 Voltaire focused on a conspicuous pair of gloves that were left behind and a pail of water that happened to fall on the wrong person. The gloves and the water started a dispute between Queen Anne, the Duchess of Malborough, and Queen’s new favorite, Baroness Masham. “A pair of gloves of a particular fashion which she refused the queen, and a jar of water that she let fall in her presence upon Lady Masham’s gown, by an affected mistake, changed the face of Europe.” According to Voltaire these two events eventually led to nothing less than the Peace of Utrecht, to the ascension of the Tories, and to the beginning of parliamentary democracy in Europe. While according to Pascal, the shortening of Cleopatra’s nose could have changed the “face of the Earth,” the incident with the gloves and the pail of water, according to Voltaire, changed “the face of Europe.” When a critic of Voltaire read these lines, he was not entirely impressed, finding the writer to be one of those men “who wants to assign the biggest events to the smallest principles.”

But others continued to speculate. A few years after Voltaire’s publication, Adrien Richer published his *Essai sur les grands événements par les petites causes* (1758), explaining how tiny causes had enormous consequences. In Richer’s account, women—especially the attractive, loose kind—were often these *petites causes*. How did these seemingly insignificant events create such cascading, ripple effects?

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2 Roy Wagner, “Coyote Anthropology” (Lincoln: University of Nebraska Press, 2010), 2.
5 Roy Wagner, “Coyote Anthropology” (Lincoln: University of Nebraska Press, 2010), 8.
The idea that everything, no matter how small, counted in the universe emerged in full force at the end of the eighteenth century and remained strong in the twentieth. Winston Churchill paid close attention to these petites causes. "It always amuses historians and philosophers to pick out the tiny things, the sharp agate points, on which the ponderous balance of destiny turns," wrote one of the greatest statesmen ever to master the art of producing a great effect with the least effort.4

A certain “course of action may send ripples of event all over the world for ever,” explained the British writer and historian J. C. Squire in 1931.5 At the very least, it certainly would make it into the news. The entertaining and growing news category of fait divers—such as “A train derailed in Alaska: a deer had blocked the switch. An Englishman enters the Legion: did not want to spend Christmas with his stepmother. An American student to abandon his studies: his chest (104 raw) causes uproar”—was, according to Roland Barthes, frequently defined by this very “rule: small causes, great effects.”6

These amusing stories had serious precedents. In 1812 the French scientist Marquis Pierre-Simon de Laplace developed new mathematical methods to explain events that had up to then been chalked up to chance. For practical reasons, he could not yet explain all so-called “chance” events in history, but Laplace believed that with enough calculations all the effects of even the “lightest atom” could eventually be traced. “Nothing could be uncertain and the future just like the past would be present” for “an intellect who at any given moment knew all of the forces that animate nature and the mutual positions of the beings that compose it” and who was “vast enough to submit the data to analysis.”7 As he could not actually trace the movements of so many individual atoms, he focused on what he could see.

Others were more imaginative. The great Scottish historian Thomas Carlyle invented a character intent on tracing the ripple effects of even the tiniest of pebbles. “It is a mathematical fact that the casting of this pebble from my hand alters the centre of gravity of the universe,” explained the professor in Sartor Resartus (1836). The professor conjured by Carlyle was an avid reader of Laplace, considering his “Book on the Stars” as “precious as to another.”8 Carlyle himself read the work of the great mathematician carefully, but was intimidated. The idea that insignificant events counted so much worried the careful historian, who could not possibly crunch as many of them, but who instead had to pick and choose. On what basis? Would his knowledge always remain inferior to that of the natural historians of the heavens?

Talk of small events creating first ripples and then waves increased in light of a new understanding of physics in terms of waves. For Charles Babbage, known as one of the inventors of the computer, all that “woman whispered” was stored somewhere in a universe composed of “vows unredeemed, promises unfulfilled, perpetuating in the united movements of each particle, the testimony of man’s changeful will.” The physicist Hermann von Helmholtz considered the world itself “a variegated crowd of intersecting wave-systems” where any cause, no matter how small, propagated itself eternally throughout time. “The rustling of silken skirts excites little curls in the air,” he explained, which “expand spherically from their respective centres, dart through each other, are reflected from the walls of the room, and thus rush backwards and forwards.”9 The mere ripple of a dress could cause significant waves, and many did.

The achievements of wave physics were soon matched by those of microphysics. James Clerk Maxwell, and a new cadre of natural philosophers, stepped “into the innermost sanctuary of the inconceivably little” and developed increasingly sophisticated methods for studying the movement and impact of the smallest of particles.10 Little things were much more powerful than big ones. If “molecules were flying in the same direction, they would constitute a wind blowing at the rate of seventeen miles a minute, and the only wind which approaches this velocity is that which proceeds from the mouth of a cannon.” These great velocities typically canceled each other, but Maxwell speculated how they could be harnessed for achieving a great effect, writing about an imaginary entity that others soon dubbed Maxwell’s Demon.11

“A great event of the 17th century owes its cause to a small fact of the 16th century that no history reports,” stated the famous scientist Henri Poincaré. Actions of great men and geniuses mattered, but only because they were often the reflection of something else, something much smaller, that once “deflected . . . a hundredth part of an inch” from its regular course. A millimeter change in the direction of sperm could make all the difference in terms of conceiving a genius, or an idiot.
"How little it would have taken to make the spermatozoid which carried them [the mysterious elements whose mutual reaction is destined to produce genius] deviate from its course," Poincaré explained. Such a small deviation changed all of history. "It would have been enough to deflect [the sperm] a hundredth part of an inch," insisted Poincaré, "and Napoleon would not have been born and the destinies of a continent would have been changed."

Men were never the petites causes behind grands effets, although sometimes they were what emerged at the end. In 1848 Marx introduced important qualifications to the idea that men made history when he explained that although they did make it, they did not make it as they willed, introducing the question of the “make-ability” of history. Marx was fascinated by causes as small as microscopic cells. The preface of Capital laid out the plan for the rest of the book: to focus on the “economic cell-form” that "to the superficial observer . . . seems to turn upon minutiae." Marx embraced the tiny as if armed with a microscope, answering defensively that the economy "does in fact deal with minutiae, but they are of the same order as those dealt with in microscopic anatomy." Since Marx, and because of these minutiae, we have failed to be free. In activities marked by intense competition (such as war, politics, sports, finance, and science), little things matter the most. Tolstoy, writing in 1869 about the 1812 battle of the Russians against Napoleon, was no longer sure about who was responsible for victory. It certainly did not seem to him that the actions of General Mikhail Kutuzov, who was generously decorated and promoted after the battle, had been that important before the successful outcome. Otto von Bismarck himself felt less influential than others often took him to be, arguing that "my influence over the events in which I have been involved is indeed substantially overestimated" and adding that "certainly no one should expect of me that I make history." For the philosopher Michel Serres, parasites—those who know so well how to profit without pay—were the main actors behind historical development. "History is full of them, or maybe is made solely of them," he ventured.

At first, novels, such as Tolstoy’s War and Peace, and later, film, became the perfect medium for showing how macroscopic world events came from the movement of much smaller things. For filming the mutiny that set off the Russian revolution, the filmmaker Sergei Eisenstein simply showed cooking-pots swaying inside the ship’s kitchen; to show the revolution itself, he displayed a chandelier, shaking gently inside the Winter Palace. In the eyes of a growing number of passive spectators—and in a world marked by a growing imbalance between spectators and so-called “actors,” these scenes made perfect sense. Ostensibly, they made sense because they reflected great events. But they made more sense because they displayed how great effects—such as mass consciousness—could arise from small causes; one only needed to move a chandelier and film it instead of actually having to capture the heavily guarded Winter Palace. Propaganda was the art of effective propagation of small causes to big effects.

The history and philosophy of science was particularly affected by the tiny, since the topics to be explained by the historian (such as Maxwellian microphysics, Pasteurian microbiology, or Marxist microeconomics) were riddled through and through with the causality and agency of little ones. When the philosopher of science Bruno Latour felt that he could not write about Pasteur without writing about the microbes on the petri dish, he concluded: “We do not know who are the agents who make up our world. We must begin with this uncertainty if we are to understand how, little by little, the agents defined one another, summoning other agents and attributing to them intentions and strategies.”

Although it was not easy to determine microcauses or microactors behind macroscopic results, by the twentieth century, most researchers had come to a radical assessment of who made history. Petites causes that create grands effets functioned like Archimedean levers and fulcrums able to sway nothing less than the World. By working against balanced equilibrium and by upsetting the usual rules of power, their distorting qualities explained “how a very few people manage to enslave the greatest number.” They created uncanny situations where “the few” were able to subtly “dominate the many.”

A central goal of modern civilization has been to optimize labor and energy by using Archimedean–like technologies for turning small actions into great ones. But we have come a long way from using the actual fulcrum and lever described in ancient mechanics. Even then, these
orgies were reserved for cranking the handle” of the telephone when “his hand, on these occasions, was a dervish overcome by frenzy.” It was then that the “employee at the other end was in danger of a stroke, as punishment for her negligence.” Soon more effective forms of punishment could be meted out without even wasting energy on cranking.

After World War I, innovations in communications technologies permitted the news to be printed as fast as telegraph keys delivered it, becoming much faster than correspondence and even rivaling telephone communication. By the 1920s textual media were combining in new ways due largely to the development of the typewriter keyboard. Visual media increased apace as films could be both “shot” and “projected” by pressing a button. Cranking orgies came to a sad end.

Fantasies about producing a great effect—however immoral it may be—by simply pressing a button flourished. In a famous story told by the Vicomte de Chateaubriand and retold by others until it was erroneously attributed to Rousseau, he asked “If thou couldst by a mere wish kill a fellow-creature in China, and inherit his fortune in Europe, with the supernatural conviction that the fact would never be known wouldst thou consent to form such a wish?” Balzac repeated the story when the main character of Père Goriot, Rastignac, is asked “What he would do if he could become wealthy by killing an old Chinese mandarin, without leaving Paris, just by an act of will?” These types of questions became even more relevant as the means for producing these effects were simplified. “In the most widespread version of the story,” as told in the late twentieth century, “the Chinese mandarin can be killed simply by pressing a button.” A pushbutton could turn Chateaubriand’s “mere wish” and Balzac’s “act of will” into effect, by eliminating physical distances while increasing psychological ones—to produce the biggest effect at the smallest expense.

Places for strategic interventions to alter the balance of the world could often be found along the paths that connected the world. These changed according to different eras. The Rothschilds owned one of the most successful financial speculations ever after the Battle of Waterloo by carefully preparing relay horses and fast sailboats to get news of the outcome a few hours before everybody else.20 Decades later Carlyle described the connections of his era in terms of “organic filaments” that included “such venous-arterial circulation, of Letters, verbal Messages, paper and other Packages, going out from him and coming in, are a blood-circulation, visible to the eye: but the finer nervous circulation, by which all things, the minutest that he does, minutely influence all men.” These were the means by which the world was connected, and when a man got into a fight with his woman, the effects were thus spread. “I say, there is not a red Indian, hunting by Lake Winnipeg, can quarrel with his squaw, but the whole world must smart for it: will not the price of beaver rise?” By the late nineteenth century, the power that could come from being close to the king’s throne had been completely replaced by that which came from having direct access to a telegraph network.

During the Cold War it was widely believed that the whole world could be destroyed by the simple act of pressing a button. The invention and proliferation of pushbuttons was tightly related to triggers, keys, and shutters. The playwright and essayist Arthur Miller recounted in his autobiography how during his childhood (during the first decades of the twentieth century) “except for light switches nothing worked by pushing a button.” Most things worked by winding and cranking rather than by pressing. “The phonograph had to be wound, a lot of the cars had to be cranked, coffee was ground by cranking, too, and the hand still had uses beyond separating pieces of paper money and pointing,” he explained.22 Walter Benjamin, reminiscing about his childhood in Berlin decades earlier around 1900, also recalled daily cranking motions. His father’s “real
which are so close to him... that they are 'sitting on his nose', they are
about noses? "When, for instance, a man wears a pair of spectacles
on a page or a screen. And what
standard commodities? With them, the world could be forever changed
history, as pushbuttons, typewriter keys, triggers, and shutters became
means for small causes to produce great effects changed throughout
causes, grand effets."25 Whatever occurred in a flash ended up being
more important for history than what occurs across long
stretches of time.26 Perfect timing became perfect timing.

The proliferation of switchboards, keys, triggers, and shutters intensified a sense of the swiftly branching nature of history. The French
writer André Maurois imagined how an Archangel would see all of his-
tory. He would most likely explain to a humble historian how history
"forks like the stem of a tree putting forth twin branches" at "each and
every instant of Time, however brief you suppose it." "One of these branches represents the sequence of facts as you, poor mortal, knew it," explained the Archangel, and the other represents what History would have become if one single detail had been other than it was."27 But what makes the history of poor mortals flow into one direction instead of another? What are the small details that make these differences? What remains at the moment of branching?

Let us return to noses. "There was a man attached to a nose," wrote Francisco de Quevedo in the seventeenth century, mocking the
"infinite narcissism" that matched the near infinite olfactory organ of his rival. Quevedo was clearly jealous of Luis de Góngora, the other
most renowned poet of his day. Jealousy, like other passions, mattered.
When Adrien Richer published his work on "small causes, great effects," he was accused of putting the horse behind the carriage. Passions,
argued his critics, were the real primary causes motivating larger
events.28 But who cares about passions when we can trace how the
means for small causes to produce great effects changed throughout
history, as pushbuttons, typewriter keys, triggers, and shutters became
standard commodities? With them, the world could be forever changed
as it was ever more readily laid down on a page or a screen. And what
about noses? "When, for instance, a man wears a pair of spectacles
which are so close to him... that they are 'sitting on his nose', they are
even more remote from him than the picture on the opposite
wall," explained Martin Heidegger. Why not correct for much more than
our vision? For this, we need to start seeing not only each others' noses
once again, but what is sitting on them and what lies directly under
them.

1 Blaise Pascal, Pensées (1669).
2 Voltaire, Le Siècle de Louis XIV (1750).
5 J. C. Squire, If It Had Happened Otherwise? (London: Longmans, Green, 1931).
7 Pierre Simon de Laplace, Essai philosophique sur les probabilités (1814).
8 "Lagrange, it is well known, has proved that the Planetary System, on this scheme, will endure forever; Laplace, still more cunningly, even guesses that it could not have been
made on any other scheme," Thomas Carlyle, Sartor Resartus (1836).
16 "The Battleship Potemkin" (1925) and "Ten Days that Shook the World," (1928).
18 Serres, Le parasite.
20 Bernhard Siegert, Relatie: Geschicke der Literatur als Epoque der Post, 1751–1913 (Berlin: Brinkmann & Bose, 1993).
21 Carlyle, Sartor Resartus (1836).
26 Stefan Zweig, Decisive Moments in History (1927).
27 André Maurois, "If Louis XVI had had an Atom of Firmness," published in If It Had Happened Otherwise?, ed. J. C. Squire (London: Longmans, Green, 1931).
28 Adrien Richer, Nouvel Essai sur les grands événements par les petites causes (1759).