

The Chain of Reason vs. the Chain of Thumbs

Why did several eminent eighteenth-century scientists—including Benjamin Franklin—sit around a table playing thumbsies?

by Stephen Jay Gould

The *Weekly World News*, most lurid entry in the dubious genre of shopping mall tabloids, shattered all previous records for implausibility with a recent headline: “Siamese Twins Make Themselves Pregnant.” The story recounted the sad tale of a conjoined brother-sister pair from a remote Indian village (such folks never hail from Peoria, where their nonexistence might be confirmed). They knew that their act was immoral, but after years of hoping in vain for ordinary partners, and in the depths of loneliness and frustration, they finally succumbed to an ever-present temptation. The story is heart-rending, but faces one major obstacle to belief: all Siamese twins are monozygotic, formed from a single fertilized egg that failed to split completely in the act of twinning. Thus, Siamese twins are either both male or both female.

I will, however, praise the good people at *Weekly World News* for one slight scruple. They did realize that they had created a problem with this ludicrous tale, and they did not shrink from the difficulty. The story acknowledged that, indeed, Siamese twins generally share the same sex, but held that this Indian pair had been formed, uniquely and differently, from two eggs that had fused! Usually, however, *Weekly World News* doesn't even bother with minimal cover-ups. Last fall, as I mentioned in my column of March 1989, they ran a screaming headline about a monster from Mars, recently sighted in a telescope and now on its way to earth. The accompanying photo of the monster showed a perfectly ordinary chambered nautilus (an odd-looking and unfamiliar creature to be sure). I mean, they didn't even bother to retouch the photo or to hide in any way their absurd transmogrification of a marine mollusk into an extraterrestrial marauder!

The sad moral of this tale lies, not with the practices of *Weekly World News*, but with the nature of a readership that permits such a publication to prosper—for if *Weekly World News* could not rely, with complete confidence, on the ignorance of its consumers, the paper would be exposed and discredited. The Siamese twin story at least showed a modicum of respect for the credulity of readers; the tale of the Martian monster records utter contempt both for the consuming public and for truth in general.

We like to cite an old motto of our culture on the factual and ethical value of veracity: “And ye shall know the truth, and the truth shall make you free” (John 8:32). But ignorance has always prospered, serving the purposes of demagogues and profitmongers. An overly optimistic account might try to link our increasing factual knowledge of the world with the suppression of cruelties and abuses ranging from execution for witchcraft to human sacrifice for propitiating deities. But this hope cannot be sustained, for no century has exceeded our own in quantity of imposed cruelty (as “improvements” in the technology of genocide and warfare more than balance any overall gains in sensibility). Moreover, despite a great spread in the availability of education, the favored irrationalisms of the ages show no signs of abatement. Presidential calendars are still set by astrologers, while charlatans do a brisk business in necklaces made of colored glass masquerading as crystals that supposedly bathe believers in a salutary and intangible “energy.” An astounding percentage of “educated” Americans think that the earth might be less than 10,000 years old, even while their own kids delight in dinosaurs at the local museum.

The champions of beleaguered rationalism—all heroes in my book—have been uncovering charlatans throughout the ages: from Elijah denouncing the prophets of Baal to Houdini exposing the tricks of mediums to James Randi on the trail of modern hoaxers and hucksters. Obviously, we have not won the war, but we have developed effective battle strategies—and would have triumphed long ago were our foe not able, like the Lernean Hydra, to grow several new heads every time we lop one off. Still, tales of past victories -- including the story of this essay —are not only useful as spurs of encouragement; they also teach us effective strategies. For reason is timeless, and its application to unfamiliar contexts can be particularly instructive.

How many of us realize that we are invoking a verbal remnant of “the greatest vogue of the 1780s” (according to historian Robert Darnton) when we claim to be “mesmerized” by a wonderful concert or a beautiful sunset? Franz Anton Mesmer was a German physician who had acquired wealth through marriage to a well endowed widow; connections by assiduous cultivation (Mozart, a valued friend, had staged the first performance of his comic opera *Bastien und Bastienne* at Mesmer's private theater); and renown with a bizarre, if fascinating, theory of “animal magnetism” and its role in human health. In 1778, Mesmer transferred to Paris, then the most “open” and vibrant capital of Europe, a city embracing the odd mixture so often spawned by liberty: intellectual ferment of the highest order combined with quackery at its most abject. Voltaire among the fortune tellers; Benjamin Franklin and the astrologers; Antoine Lavoisier amidst the spiritualists.

Mesmer, insofar as one can find coherence in his ideas at all, claimed that a single (and subtle) fluid pervaded the universe, uniting and connecting all bodies. We give different names to this fluid according to its various manifestations: gravity when we consider planets in their courses; electricity when we contemplate a thunderstorm; magnetism when we navigate by compass. The fluid also flows through organisms and may be called animal magnetism. Disease results from a blockage of this flow, and cure of disease requires a reestablishment of the flux and a restoration of equilibrium. (Mesmer himself never went so far as to ascribe all bodily ills to blocked magnetism, but several of his disciples held this extreme view, and such a motto came to characterize the mesmeric movement: “There is only one illness and one healing.”)

Cure of illness requires the aid of an “adept,” a person with unusually strong magnetism who can locate the “poles” of magnetic flow on the exterior of a human body and, by massaging these areas, break the blockage within and reestablish the normal flux. When working one on one, Mesmer would sit directly opposite his patient, establishing the proper contact and flow by holding the sufferer's knees within his own, touching fingers, and staring directly into her face (most patients were women, thus adding another dimension to charges of exploitation). Mesmer, by all accounts, was a most charismatic man – and we need no great psychological sophistication to suspect that he might have produced effects more by the power of suggestion than by the flow of any fluid.

In any case, the effects were dramatic. Within a few minutes of mesmerizing, sensitive patients would fall into the characteristic “crisis” taken by Mesmer as proof of his method. Bodies would begin to shake, arms and legs move violently and involuntarily, teeth chatter loudly. Patients would grimace, groan, babble, scream, faint, and fall unconscious. Several repetitions of these treatments would reestablish magnetic equilibrium and produce cures. Mesmer carried sheaves of testimonials claiming recovery from a variety of complaints. Even his most determined critics did not deny all cures, but held that Mesmer had only relieved certain psychosomatic illnesses by the power of suggestion and had produced no physical effects by means of his putative universal fluid.

Mesmer's popularity required development of methods for treating large numbers of patients simultaneously (such a procedure didn't hurt profits either), and Mesmer imposed high charges, in two senses, upon his mostly aristocratic crowd. Moreover, as a master of manipulation, Mesmer surely recognized the social value of treatment in groups—both the reinforcing effect of numerous crises and the simple value of conviviality in spreading any vogue as a joint social event and medical cure. Mesmer therefore began to magnetize inanimate objects and to use these charged bodies as instruments of unblocking and cure.

Many contemporary descriptions and drawings of Mesmer's sessions depict the same basic scene. Mesmer placed a large vat, called a *baquet*, in the center of a room. The *baquet* was filled with “magnetized” water and, sometimes, a layer of iron filings as well. Some twenty thin metal rods protruded from the *baquet*. A patient would grab hold of a rod and apply it to the mesmeric poles of his body. To treat more than twenty, Mesmer would loop a rope from those who surrounded the *baquet* (and held the iron rods) to others in the room—while taking care that the rope contained no knots, for such constrictions would impede the flux. Patients would then form a “mesmeric chain” by holding a neighbor's left thumb between their own right thumb and forefinger, while extending their own left thumb to the next patient down the line. By squeezing a neighbor's left thumb, magnetic impulses could be sent all the way down the chain.

Mesmer, whether consciously or not, surely exploited both the art and politics of psychosomatic healing. Everything in his curing room was carefully set up to maximize results, efficiency, and profit. He installed mirrors to reflect the action and encourage mass response; he heightened the effect with music played on the ethereal tones of a glass harmonica, the instrument that Benjamin Franklin had developed; he employed assistants to carry convulsive patients into a “crisis room” lined with mattresses, lest they should hurt themselves in their frenzy. To avoid the charge of profitmongering among the rich alone, Mesmer provided a poor man's cure by magnetizing trees and inviting the indigent to take their relief gratis and alfresco.

I don't want to commit the worst historical error of wrenching a person from his own time and judging him by modern standards and categories. Thus, Franz Mesmer was not Uri Geller teleported to 1780. For one thing, historical records of Mesmer are scanty, and we do not even know whether he was a simple charlatan, purveying conscious fakery for fame and profit, or a sincere believer, deluded no less than his patients in mistaking the power of suggestion for the physical effects of an actual substance. For another, the lines between science and pseudoscience were not so clearly drawn in Mesmer's time. A strong group of rationalists were laboring to free science from speculation, system building, and untestable claims about universal harmonies. But their campaign also demonstrates that all-embracing and speculative systems were still viewed by many as legitimate parts of science in the eighteenth century. Robert Darnton, who has written the best modern book on mesmerism, describes the French intellectual world of the 1780s (*Mesmerism and the End of the Enlightenment in France*, Harvard University Press, 1968, pages 42-44):

They looked out on a world so different from our own that we can hardly perceive it; for our view is blocked by our own cosmologies assimilated, knowingly or not, from the scientists and philosophers of the 19th and 20th centuries. In the 18th century, the view of literate Frenchmen opened upon a splendid, baroque universe, where their gaze rode on waves of invisible fluid into realms of infinite speculation.

Still, whatever the differing boundaries and cultural assumptions, the fact remains that Mesmer based his system on specific claims about fluids, their modes of flow, and their role in causing and curing human disease—claims subject to test by the ordinary procedures of experimental science. The logic of argument has a universality that transcends culture, and late eighteenth century debunking differs in no substantial way from modern efforts. Indeed, I write this essay because the most celebrated analysis of mesmerism, the report of the Royal Commission of 1784, is a masterpiece of the genre, an enduring testimony to the power and beauty of reason.

Mesmerism became such a craze in the 1780s that many institutions began to worry and retaliate. Conventional medicine, which offered so little in the way of effective treatment, was running scared. Empirical and experimental scientists viewed Mesmer as a throwback to the worst excesses of speculation. People in power feared the irrationalism, the potential for sexual license, the possibility of rupturing the boundaries of social class that Mesmer's mass sessions could inspire. Moreover, Mesmer had many powerful friends in high circles, and his disturbing ideas might spread by export. (Mesmer counted Lafayette among his most ardent disciples. King Louis XVI asked Lafayette before he departed for America in 1784: "What will Washington think when he learns that you have become Mesmer's chief journeyman apothecary?" Lafayette did proselytize for Mesmer on our shores, although Thomas Jefferson actively opposed him. Lafayette even visited a group of Shakers, thinking that they had discovered a form of mesmerism in their religious dances.)

The mesmeric vogue became sufficiently serious that Louis XVI was persuaded to establish a Royal Commission in 1784 to evaluate the claims of animal magnetism. The commission was surely stacked against Mesmer, but it proceeded with scrupulous fairness and thoroughness. Never in history has such an extraordinary and luminous group been gathered together in the service of rational inquiry by the methods of experimental science. For this reason alone, the *Rapport des commissaires chargés par le roi de l'examen du magnétisme animal* (Report of the Commissioners Charged by the King to Examine Animal Magnetism) is a key document in the history of human reason. It should be rescued from its current obscurity, translated into all languages, and reprinted by organizations dedicated to the unmasking of quackery and the defense of rational thought.

The commissioners included several of France's leading physicians and scientists, but two names stand out: Benjamin Franklin and Antoine Lavoisier. (Franklin served as titular head of the commission, signed the report first, and designed and performed several of the experiments; Lavoisier was the commission's guiding spirit and probably wrote the final report.) The conjunction may strike some readers as odd, but no two men could have been more appropriate or more available. Franklin lived in Paris, as official representative of our newborn nation, from 1776 to 1785. American intellectuals sometimes underestimate Franklin's status, assuming perhaps that we revere him *faute de mieux* and for parochial reasons—and that he was really a pipsqueak and amateur among the big boys of Europe. No such thing. Franklin was a universally respected scholar and a great, world-class scientist in an age when nearly all practitioners were technically amateurs. As the world's leading expert on electricity—a supposed manifestation of Mesmer's universal fluid—Franklin was an obvious choice for the commission. His interest also extended to smaller details, in particular to Mesmer's use of the glass harmonica (Franklin's own invention) as an auxiliary in the precipitation of crises. As for Lavoisier, he was one of the half-dozen greatest scientific geniuses of all time: he wrote with chilling clarity, and he thought with commanding rigor. If the membership contains any odd or ironic conjunction, I would point rather to the inclusion of Dr. Guillotin among the physicians—for Lavoisier would die, ten years later, under the knife that bore the good doctor's name.

The experimental method is often oversold or promulgated as the canonical, or even the only, mode of science. As a natural historian, I have devoted many columns in this series to the different approaches used in explaining unique and complex historical events—aspects of the world that cannot be simulated in laboratories or predicted from laws of nature. Moreover, the experimental method is fundamentally conservative, not innovative—a set of procedures for evaluating and testing ideas that originate in other ways. Yet, despite these caveats about nonexclusivity and limited range, the experimental method is a tool of unparalleled power in its appropriate (and large) domain.

Lavoisier, Franklin, and colleagues conclusively debunked Mesmer by applying the tools of their experimental craft, tried and true: standardization of complex situations to delineate possible causal factors, repetition of experiments with control and variation, and separation and independent testing of proposed causes. The mesmerists never recovered, and their leader and namesake soon high-tailed it out of Paris for good, although he continued to live in adequate luxury, if with reduced fame and prestige, until 1815. Just a year after the commission's report, Thomas Jefferson, replacing Franklin as American representative in Paris, noted in his journal: "animal magnetism dead, ridiculed." (Jefferson was overly optimistic, for irrationalism born of hope never

dies; still, the report of Franklin and Lavoisier was probably the key incident that turned the tide of opinion—a subtle fluid far more palpable and powerful than animal magnetism—against Mesmer.)

The commissioners began with a basic proposition to guide their testing: “Animal magnetism might well exist without being useful, but it cannot be useful if it doesn't exist.” Yet, any attempt to affirm the existence of animal magnetism faced an intense and immediate frustration: the mesmerists insisted that their subtle fluid had no tangible or measurable attributes. Imagine the chagrin of a group of eminent physical scientists trying to test the existence of a fluid without physical properties! They wrote, with the barely concealed contempt that makes Lavoisier's report a masterpiece of rhetoric, as well as an exemplar of experimental method (the two are not inconsistent because fair and scrupulous procedures do not demand neutrality, but only strict adherence to the rules of the craft):

It didn't take the Commissioners long to recognize that this fluid escapes all sensation. It is not at all luminous and visible like electricity [the reference, of course, is to lightning before the days of “invisible” flow through modern wires]. Its action is not clearly evident, as the attraction of a magnet. It has no taste, no odor. It works with out sound, and surrounds or penetrates you without warning you of its presence. If it exists in us and around us, it does so in an absolutely insensible manner. [All quotations from the commissioners' report are my translations from an original copy in Harvard's Houghton Library.]

The commissioners therefore recognized that they would have to test for the existence of animal magnetism through its effects, not its physical properties. This procedure suggested either a focus on cures or on the immediate (and dramatic) crises supposedly provoked by the flow of magnetism during Mesmer's sessions. The commissioners rejected a test of cures for three obvious and excellent reasons: cures take too long and time was awasting as the mesmeric craze spread; cures can be caused by many factors, and the supposed effects of magnetism could not be separated from other reasons for recovery; nature, left to her own devices, relieves many ills without any human intervention. (Franklin wryly suspected that an unintended boost to nature lay at the root of Mesmer's successes. His fluid didn't exist, and his sessions produced no physical effect. But patients in his care stayed away from conventional physicians and therefore didn't take the ordinary pills and potions that undoubtedly did more harm than good and impeded natural recovery.) Mesmer, on the other hand, wanted to focus upon cures, and he refused to cooperate with the commission when they would not take his advice. The commission therefore worked in close collaboration with Mesmer's chief disciple, Charles Deslon, who attended the tests and attempted to magnetize objects and people. (Deslon's cooperation indicates that the chief mesmerists were not frauds, but misguided believers in their own system. Mesmer tried to dissociate himself from the commission's findings, arguing that Deslon was a blunderer unable to control the magnetic flux—but all to no avail, and the entire movement suffered from the exposé.)

The commissioners began by trying to magnetize themselves. Once a week, and then for three days in a row (to test a claim that such concentrated time boosted the efficiency of magnetism), they sat for two and a half hours around Deslon's *baquet* in his Paris curing room, faithfully following all the mesmeric rituals. Nobody felt a thing beyond boredom and discomfort. (I am, somehow, greatly taken by the image of these enormously talented and intensely skeptical men sitting around a *baquet*, presumably under their perukes, joined by a rope, each holding an iron rod, and “making from time to time,” to quote Lavoisier, “the chain of thumbs.” I can picture the scene, as Lavoisier says—OK boys, ready? One, two, squeeze those thumbs now.)

The commissioners recognized that their own failure scarcely settled the issue, for none was seriously ill (despite Franklin's gout), and Mesmer's technique might only work on sick people with magnetic blockages. Moreover, they acknowledged that their own skepticism might be impeding a receptive state of mind. They therefore tested seven “common” people with assorted complaints and then, in a procedure tied to the social assumptions of the *ancien régime*, seven sufferers from the upper classes, reasoning that people of higher status would be less subject, by their refinement and general superiority, to the power of suggestion. The results supported power of suggestion

as the cause of crises, rather than physical effects of a fluid. Only five of fourteen subjects noted any results, and only three—all from the lower classes—experienced anything severe enough to label as a crisis. “Those who belong to a more elevated class, endowed with more light, and more capable of recognizing their sensations, experienced nothing.” Interestingly, two commoners who felt nothing—a child and a young retarded woman—might be judged less subject to the power of suggestion, but not less able to experience the flow of a fluid, if it existed.

These preliminaries brought the commissioners to the crux of their experiments. They had proceeded by progressive elimination and concentration on a key remaining issue. They had hoped to test for physical evidence of the fluid itself, but could not and chose instead to concentrate on its supposed effects. They had decided that immediate reactions rather than long-term cures must form the focus of experiments. They had tried the standard techniques on themselves, without result. They had given mesmerists the benefit of all doubt by using the same methods on people with illnesses and inclined to accept the mesmeric system—still without positive results. The investigation now came down to a single question, admirably suited for experimental resolution: the undoubted crises that mesmerists could induce might be caused by one of two factors (or perhaps both) —the psychological power of suggestion or the physical action of a fluid.

The experimental method demands that the two possible causes be separated in controlled situations. People must be subjected to the power of suggestion but not magnetized, and then magnetized but not subject to suggestion. These separations demanded a bit of honorable duplicity from the commissioners—for they needed to tell people that nonmagnetized objects were really full of mesmeric fluid (suggestion without physical cause), and then magnetize people without letting them know (physical cause without suggestion).

In a clever series of experiments, designed mainly by Lavoisier and carried out at Franklin's home in Passy, the commissioners made the necessary separations and achieved a result as clear as any in the history of debunking: crises are caused by suggestion; not a shred of evidence exists for any fluid, and animal magnetism, as a physical force, must be firmly rejected.

For the separation of suggestion from magnetism, Franklin asked Deslon to magnetize one of five trees in his garden. A young man, certified by Deslon as particularly sensitive to magnetism, was led to embrace each tree in turn, but not told about the smoking gun. He reported increasing strength of magnetization in each successive tree and finally fell unconscious in a classic mesmeric crisis before the fourth tree. Only the fifth, however, had been magnetized by Deslon! Mesmerists rejected the result, arguing that all trees have some natural magnetization anyway, and that Deslon's presence in the garden might have enhanced the effect. But Lavoisier replied scornfully:

But then, a person sensitive to magnetization would not be able to chance a walk in a garden without the risk of suffering convulsions, and such an assertion is therefore denied by ordinary, everyday experience.

Nevertheless, the commissioners persisted with several other experiments, all leading to the same conclusion—that suggestion without magnetism could easily produce full-scale mesmeric crises. They blindfolded a woman and told her that Deslon was in the room, filling her with magnetism. He was nowhere near, but the woman had a classic crisis. They then tested the patient without a blindfold, telling her that Deslon was in the next room directing the fluid at her. He was not, but she had a crisis. In both cases, the woman was not magnetized or even touched, but her crises were intense.

Lavoisier conducted another experiment at his home in the Arsenal (where he worked as Commissioner of Gunpowder, having helped America's revolution with materiel, as much as Lafayette had aided with men). Several porcelain cups were filled with water, one supposedly strongly magnetized. A particularly sensitive woman who, in anticipation, had already experienced a crisis in Lavoisier's antechamber, received each cup in turn. She began to quiver after touching the second cup and fell into a full crisis upon receiving the fourth. When she recovered and

asked for a cup of water, the foxy Lavoisier finally passed her the magnetized liquid. This time, she not only held, but actually imbibed, although “she drank tranquilly and said that she felt relieved.”

The commissioners then proceeded to the reverse test of magnetizing without unleashing the power of suggestion. They removed the door between two rooms at Franklin's home and replaced it with a paper partition (offering no bar at all, according to Deslon, to the flow of mesmeric fluid). They induced a young seamstress, a woman with particularly acute sensitivity to magnetism, to sit next to the partition. From the other side, but unknown to the seamstress, an adept magnetizer tried for half an hour to fill her with fluid and induce a crisis, but “during all this time, Miss B ... made gay conversation; asked about her health, she freely answered that she felt very well.” Yet, when the magnetizer entered the room, and his presence became known (while acting from an equal or greater distance), the seamstress began to convulse after three minutes and fell into a full crisis in twelve minutes.

The evident finding, after so many conclusive experiments—that no evidence exists for Mesmer's fluid and that all noted effects may be attributed to the power of imagination—seems almost anticlimactic, and the commissioners offered their result with clarity and brevity: “The practice of magnetization is the art of increasing the imagination by degrees.” Lavoisier then ended the report with a brilliant analysis of the reasons for such frequent vogues of irrationalism throughout human history. He cited two major causes, or predisposing factors of the human mind and heart. First, our brains just don't seem to be well equipped for reasoning by probability. Fads find their most fertile ground in subjects, like the curing of disease, that require a separation of many potential causes and an assessment of probability in judging the value of a result:

The art of concluding from experience and observation consists in evaluating probabilities, in estimating if they are high or numerous enough to constitute proof. This type of calculation is more complicated and more difficult than one might think. It demands a great sagacity generally above the power of common people. The success of charlatans, sorcerers and alchemists—and all those who abuse public credulity—is founded on errors in this type of calculation.

I would alter only Lavoisier's patrician assumption that ordinary folks cannot master this mode of reasoning—and write instead that most people surely can but, thanks to poor education and lack of encouragement from general culture, do not. The end result is the same—riches for Las Vegas and disappointment for Pete Rose. But at least the modern view does not condemn us to a permanent and inevitable status as saps, dupes, and dunces.

Second, whatever our powers of abstract reasoning, we are also prisoners of our hopes. So long as life remains disappointing and cruel for so many people, we shall be prey to irrationalisms that promise relief. Lavoisier regarded his countrymen as more sophisticated than previous suckers of centuries past, but still victims of increasingly sly manipulators. (Nothing has changed today, as the Gellers and von Danikens remain one step ahead of their ever-gullible disciples):

This theory [mesmerism] is presented today with the more imposing apparatus [I presume that Lavoisier means both ideas and contraptions] necessary in our more enlightened century—but it is no less false. Man seizes, abandons, but then commits again the errors that flatter him.

The ever-present temptress is simple hope in a world of woe: Mesmerism “attracts people by the two hopes that touch them the most: that of knowing the future and that of prolonging their days.”

Lavoisier then drew an apt parallel between the communal crises of mesmeric sessions and the mass emotionalism so often exploited by demagogues and conquerors throughout *history*—“*Tenthousiasme du courage*” (enthusiasm of courage) or “*l’unité d’ivressé*” (unity of intoxication). Generals elicit this behavior by sounding the drums and playing the bugles; promoters by hiring a claque to begin and direct the applause after performances; demagogues by manipulating the mob.

Lavoisier's social theory offered no solution to the destructive force of irrationalism beyond a firm and continuing hegemony of the educated élite. (As my one criticism of the commissioners' report, Lavoisier and colleagues could see absolutely nothing salutary, in any conceivable form, in the strong emotionalism of a mesmeric crisis. They did not doubt the power of the psyche to cure, but as sons of the Enlightenment, children of the Age of Reason, they proclaimed that only a state of calm and cheerfulness could convey any emotional benefit to the afflicted. In this restriction, they missed an important theme of human complexity and failed to grasp the potential healing effect of many phenomena that call upon the wilder emotions—from speaking in tongues to catharsis in theatrical performance to aspects of Freudian psychoanalysis. In this sense, some Freudians view Mesmer as a worthy precursor with a key insight into human nature. I hesitate to confer such status upon a man who attained great wealth from something close to quackery—but I see the point.)

I envision no easy solution either, but I adopt a less pessimistic attitude than Lavoisier. Human nature is flexible enough to avert the baleful effects of intoxicated unity, and history shows that revolutionary enthusiasm need not devolve into hatred and mass murder. Consider Franklin and Lavoisier one last time. Our revolution remained in the rational hands of numerous Franklins, Jeffersons, and Washingtons; France went from the Declaration of the Rights of Man to the Reign of Terror. (I do recognize the different situations, particularly the greater debt of hatred, based on longer and deeper oppression, necessarily discharged by the new rulers of France. Still, no inevitability attended the excesses fanned by mass emotionalism.) In other words:

Antoine Lavoisier
Lost his head
Benjamin Franklin
Died in bed.

From which, I think, we can only conclude that Mr. Franklin understood a thing or two when he remarked, speaking of his fellow patriots, but extended here to all devotees of reason, that we must either hang together or hang separately.

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