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# Back from the Brink

## Truth and Trust in the Public Sphere

It is 2017. Do you know where the truth is? Hardly a day passes without some major accusation in the media that the nation's highest office has become a source of unfounded stories, claims without evidence, even outright lies. As the charges against the executive branch pile up, the White House counters that institutions long seen as standing above partisan wrangling can no longer be trusted: the Federal Bureau of Investigation, the Central Intelligence Agency, the Congressional Budget Office, the federal judiciary have all felt the heat of presidential pushback. In this topsy-turvy world it hardly seems surprising that the newly appointed Environmental Protection Agency administrator rejects two decades of findings by the Intergovernmental Panel on Climate Change on the warming effects of atmospheric carbon. Even scientific consensus can be dismissed as politics by other means. But how can a modern, technologically advanced nation fulfill its mandate to protect its citizens if it disavows its own capacity to produce public facts and public reason? Is the commitment to truth and trust in the public sphere irreparably damaged, or can steps be taken to restore it?

It is tempting to turn the clock back to January 2009, when the answer seemed both easy and overdue: restore science to its rightful place as humanity's most rigorous and reliable pathway to truth. But today's questions are not easy, nor are they new.

The current assault on public facts looks unprecedented, but moral panics about the reliability of public knowledge did not originate in the twenty-first century. What has shifted is the politics of

concern, reflected in the focus of the panic, the actors who are disconcerted, and the discourse surrounding the breakdown. Setting the present chaos of "alternative facts" and "post-truth politics" within a longer history may help point the way from empty hand-wringing toward more constructive reflection and response.

Democratic states earned their legitimacy in part by demonstrating that they knew how to ensure public welfare—securing frontiers, improving public health, guarding against economic misery, and creating opportunities for social mobility and betterment. For this they needed science and expertise. As industries multiplied, corporations grew, and governments extended their regulatory oversight, it became less and less thinkable that power could be exercised without recourse to expert knowledge. But just as power is continually contested and forced to justify itself in democratic politics, so has power's knowledge come under constant questioning. In the United States, in particular, political actors of all stripes pay lip service to the importance of science for policy; yet, specific scientific claims seldom pass unchallenged in any significant policy domain. Arguably, that long record of attack and counterattack has weakened the nation's moral authority to produce what I call "serviceable truths"—that is, robust statements about the condition of the world, with enough buy-in from both science and society to serve as a basis for collective decisions.

The roots of discontent reach back at least to the New Deal, an era marked by the rise of regulation and centralized public knowledge. In that period, federal involvement to protect the economy against

another Great Depression, together with progressive ideals of informed and reasoned government, led to an enormous expansion of the regulatory state and its policy-relevant expertise. The United States, of course, was not alone in experiencing the move to government by experts. In Europe, Max Weber, the first and possibly greatest theoretician of bureaucracy, observed a wide-ranging displacement of autocratic, monarchical power by the authority of the detached and objective expert. But the US evolution of expert-state relations took specific turns consistent

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with this nation's pluralistic politics, adversarial administrative process, and suspicion of centralized authority.

The growth of the US administrative state drew calls for greater openness and accountability in its ways of knowing. Business and industry worried that the government's claims of superior expertise together with its monopoly on information would hurt their interests, and they sought to ensure by law that they would have access to the expert practices of executive bodies. Their activism led to the Administrative Procedure Act of 1946, passed to remedy what the Senate Judiciary Committee identified in 1945 as "an important and far-reaching defect in the field of administrative law," namely, "a simple lack of adequate public information concerning its substance and procedure." Designed to make the administrative process more transparent, the act also created—through its provision for judicial review—a potent instrument for contesting public facts, an instrument that political interests of all stripes enthusiastically exploited in the decades after the law's enactment. A pattern developed that many analysts have noted: US politics played out not only in the realm of law, as a fascinated Alexis de Tocqueville had observed in 1831, but also in recurrent, rancorous disputes over scientific claims.

The expansion of social regulation in the 1970s gave new impetus to the private sector's disen-

chantment with public fact making, eliciting repeated charges of "bad" and even "junk" science. Again, public authorities bore the brunt of these attacks. This was the period in which an electorate newly sensitized to health, safety, and environmental hazards demanded, and received, protection from previously unseen and understudied threats: radiation, airborne toxic emissions, chemicals in food and water, untested drugs, workplace hazards, and leaking landfills. A barrage of progressive legislation sought to protect the subjects of a postindustrial, postmaterial society still exposed to the all-too-material hazards of older, dirtier industrial processes. These laws changed the US social contract for science, demanding expensive information as a precondition for doing many kinds of business, and also enabling regulatory agencies to fill gaps in public knowledge. Above all, agencies gained authority to interpret existing information for policy purposes with the aid of a growing "fifth branch" of scientific advisers. Convened for the express purpose of helping agencies to carry out their statutory mandates, these bodies often found themselves on the front line of political combat, whether for having over-read the evidence in favor of regulation or, less frequently, for granting too much latitude to industry's antiregulatory claims.

From the late 1970s onward, US industries continually accused federal agencies and their expert advisers of allowing politics to contaminate science, and with the election of Ronald Reagan in 1980 they found a willing ally in the White House. In the early years of the Reagan administration, charges of "bad science" crystallized into a specific bid for a single, central agency to carry out risk assessments for all federal regulatory agencies, as well as a more general call for peer review of the government's scientific findings by scientists not too closely associated with the state. A seminal report from the National Research Council in 1983, *Risk Assessment in the Federal Government: Managing the Process*, beat back the demand for centralization but did its own influential boundary work by labeling risk assessment a "science." Decades of research since then have demonstrated that risk assessment not only is, but must be, a complex exercise blending accepted and plausibly surmised facts with judgments conditioned by public values and purposes. Nonetheless, the label "scientific risk assessment" endures, separated in regulators' minds from "risk management," the process that explicitly translates scientific findings into social policy.

The science label, however, proved to be a lightning rod for an increasingly partisan politics. It left agency decision makers vulnerable to claims that their

risk assessments had deviated from a baseline of imagined scientific purity. Peer review, the tried and true method by which science maintains its hold on objectivity, drew special scrutiny as more political actors recognized it as a space for flexible judgment. In the administration of George W. Bush, the Office of Management and Budget attempted to take control of the process of appointing regulatory peer reviewers but was deterred by an outcry from leading scientific bodies. Meanwhile, the Democratic opposition excoriated the Bush administration for waging what the science journalist Chris Mooney colorfully named *The Republican War on Science*.

By the 1990s, the uproar surrounding public knowledge-making reached another crescendo around the use of science in courts. Prominent scientists and legal analysts teamed up with industry in decrying the courts' alleged receptivity to what they considered junk science. They lobbied to introduce more "independent" expertise (that is, experts nominated by the courts rather than selected by the parties) into a process traditionally dominated by adversarial interests. The Supreme Court took note and in 1993 issued a ruling, *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, asking judges to play a more assertive part in prescreening expert testimony. *Daubert* stopped short of demanding peer review and publication as necessary conditions for introducing scientific testimony. But flying in the face of findings from the sociology of knowledge, the decision reaffirmed the notion that criteria for determining the reliability of proffered testimony exist outside and independent of case-specific proceedings involving particular domains of science and technology. Although increasing judges' power to screen scientific evidence, *Daubert* in this sense undercut judicial sensitivity to the contexts in which evidence is generated—or not generated, often to the detriment of economically and socially disadvantaged plaintiffs.

Through these decades of contestation over public knowledge, a rhetorical constant has been the invocation of *science*, along with its penumbra of facts and truth, to both legitimize and delegitimize public action. Notably absent from US policy discourse, however, is an espousal of the "precautionary principle," a cornerstone of European

regulatory policy designed to deal with situations in which policies must be adopted without achieving complete certainty on the facts. As described in a European Union communication of 2000 explaining how the term should be interpreted and implemented, "the precautionary principle is neither a politicisation of science or the acceptance of zero-risk but ... it provides a basis for action when science is unable to give a clear answer."

The important issue here is not whether the principle always translates into unambiguous policy, nor whether European policy makers have been sincere or consistent in applying it, nor even whether Europe's precautionary approach produces more or less stringent regulation than the US's risk-based choices. Rather, the relevant point for reliable public knowledge is the very recognition of an intermediate analytic position between "politicization" and "zero risk"—a position usefully occupied by the notion of precaution. Worth noting, too, is the convergence between the European Union's articulation of the precautionary principle and the idea of "serviceable truth," defined in my 1990 book *The Fifth Branch* as "a state of knowledge that satisfies tests of scientific acceptability and supports reasoned decision-making, but also assures those exposed to risk that their interests have not been sacrificed on the altar of an impossible scientific certainty." That book, a detailed study of peer review in the Environmental Protection Agency and the Food and Drug Administration, concluded that regulators should aim to ground their decisions in serviceable truths when science pure and simple does not offer precise guidance.

Let us fast-forward, then, to the "post-truth" present. The shoe in important respects is on the other foot, with liberals, left-leaning intellectuals, and Democrats, rather than conservatives, corporations, and Republicans, complaining of politics distorting science and propagating, in presidential spokeswoman Kellyanne Conway's unforgettable phrase, "alternative facts." How did "truth" become the property of the political left when once it seemed the rhetorical staple of the political right, and how are today's cries of outrage at governmental deviation from science, expertise, and facts different from the charges from the right in earlier decades?

It is not far-fetched to suggest that it is liberals who now have lost sight of the social context of truth claims. The great gains made by science and technology in recent decades have led to complacency about science providing the right answers to big social problems. Climate change with its urgent messages for humankind is the most prominent example, but scientists insist equally on the primacy of facts in any number of situations where science has provided support for increased intervention into natural processes, such as the safety of nuclear power, vaccination against childhood disease, and genetic modification of plants. In time, we are told, even gene editing of future humans will become risk-free, just as autonomous vehicles will carry passive human riders safely along city streets. Lost from view is the fact that people bring other values and concerns to each and every one of these debates, such as whose definition of risk or benefit frames the public debate, whose knowledge counts, and who gains or loses in implementing the solutions that science advocates.

To address the current retreat from reason—and indeed to restore confidence that “facts” and “truth” can be reclaimed in the public sphere—we need a discourse less crude than the stark binaries of good/bad, true/false, or science/antiscience. That oversimplification, we have seen, only augments political polarization and possibly yields unfair advantage to those in possession of the political megaphones of the moment. We need a discourse more attuned to findings from the history, sociology, and politics of knowledge that truth in the public domain is not simply out there, ready to be pulled into service like the magician’s rabbit from a hat. On the contrary, in democratic societies, public truths are precious collective achievements, arrived at just as good laws are, through slow sifting of alternative interpretations based on careful observation and argument and painstaking deliberation among trustworthy experts.

In good processes of public fact-making, judgment cannot be set aside, nor facts wholly disentangled from values. The durability of public facts, accepted by citizens as “self-evident” truths, depends not on nature alone but on the procedural values of fairness, transparency, criticism, and appeal in the fact-finding process. These virtues, as the sociologist Robert K. Merton noted as long ago as 1942, are built into the ethos of science. How else, after all, did modern Western societies repudiate earlier structures of class, race, gender, religious, or ethnic inequality than by letting in the skeptical voices of the underrepresented? It is when ruling institutions bypass the virtues of openness and critique that

public truthfulness suffers, yielding to what the comedian Stephen Colbert called “truthiness,” the shallow pretense of truth, or what the Israeli political scientist Yaron Ezrahi calls “out-formations,” baseless claims replacing reliable, institutionally certified information. That short-circuiting of democratic process is what happened when the governments of Tony Blair and George W. Bush disastrously claimed to have evidence of weapons of mass destruction in Iraq. A cavalier disregard for process, over and above the blatancy of lying, may similarly deal the harshest blows to the credibility of the Trump administration.

Public truths cannot be dictated—neither by a pure, all-knowing science nor unilaterally from the throne of power. Science and democracy, at their best, are modest enterprises because both are mistrustful of their own authority. Each gains by making its doubts explicit. This does not mean that the search for closure in either science or politics must be dismissed as unattainable. It does mean that we must ask and insist on good answers to questions about the procedures and practices that undergird both kinds of authority claims. For assertions of public knowledge, the following questions then seem indispensable:

- Who claims to know?
- In answer to whose questions?
- On what authority?
- With what evidence?
- Subject to what oversight or opportunity for criticism?
- With what openings for countervailing views to express themselves?
- And with what mechanisms of closure in cases of disagreement?

If those questions can be raised and discussed, even if not resolved to everyone’s satisfaction, then factual disagreements retreat into the background and confidence builds that ours is indeed a government of reason. For those who are not satisfied, the possibility remains open that one can return some other day, with more persuasive data, and hope the wheel of knowledge will turn in synchrony with the arc of justice. In the end, what assures a polity that knowledge is justly coupled to power is not the assertion that science knows best, but the conviction that science itself has been subjected to norms of good government.

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