

FRANCIS BACON (1561–1626)
THE GREAT INSTAURATION (1620)

Upon the whole, therefore, it seems that men have not been happy hitherto either in the trust which they have placed in others or in their own industry with regard to the sciences, especially as neither the demonstrations nor the experiments as yet known are much to be relied upon. But the universe to the eye of the human understanding is framed like a labyrinth, presenting as it does on every side so many ambiguities of way, such deceitful resemblances of objects and signs, natures so irregular in their lines and so knotted and entangled. And then the way is still to be made by the uncertain light of the sense, sometimes shining out, sometimes clouded over, through the woods of experience and particulars, while those who offer themselves for guides are (as was said) themselves also puzzled, and increase the number of errors and wanderers. In circumstances so difficult neither the natural force of man's judgement nor even any accidental felicity offers any chance of success. No excellence of wit, no repetition of chance experiments, can overcome such difficulties as these. Our steps must be guided by a clue, and the whole way from the very first perception of the senses must be laid out upon a sure plan. Not that I would be understood to mean that nothing whatever has been done in so many ages by so great labors. We have no reason to be ashamed of the discoveries which have been made, and no doubt the ancients proved themselves in everything that turns on wit and abstract meditation, wonderful men. But, as in former ages, when men sailed only by observation of the stars, they could indeed coast along the shores of the old continent or cross a few small and Mediterranean seas, but before the ocean could be traversed and the New World discovered, the use of the mariner's needle, as a more faithful and certain guide, had to be found out. In like manner, the discoveries which have been hitherto made in the arts and sciences are such as might be made by practice, meditation, observation, argumentation—for they lay near to the senses and immediately beneath common notions, but before we can reach the remoter and more hidden parts of nature, it is necessary that a more perfect use and application of the human mind and intellect be introduced.

For my own part at least, in obedience to the everlasting love of truth, I have committed myself to the uncertainties and difficulties and solitudes of the ways and, relying on the divine assistance, have upheld my mind both against the shocks and embattled ranks of opinion, and against my own private and inward hesitations and scruples, and against the fogs and clouds of nature, and the phantoms flitting about on every side, in the hope of providing at last for the present and future generations guidance more faithful and secure. Wherein if I have made any progress, the way has been opened to me by no other means than the true and legitimate humiliation of the human spirit. For all those who before me have applied themselves to the invention of arts have but cast a glance or two upon facts and examples and experience, and straightway proceeded, as if invention were nothing more than an exercise of thought, to invoke their own spirits to give them oracles. I, on the contrary, dwelling purely and constantly among the facts of nature, withdraw my intellect from them no further than may suffice to let the images and

rays of natural objects meet in a point, as they do in the sense of vision, whence it follows that the strength and excellence of the wit has but little to do in the matter. . . . And for myself, if in anything I have been either too credulous or too little awake and attentive, or if I have fallen off by the way and left the inquiry incomplete, nevertheless I so present these things naked and open, that my errors can be marked and set aside before the mass of knowledge be further infected by them, and it will be easy also for others to continue and carry on my labors. And by these means I suppose that I have established forever a true and lawful marriage between the empirical and the rational faculty, the unkind and ill-starred divorce and separation of which has thrown into confusion all the affairs of the human family.

Taken from Francis Bacon, “The Great Instauration,” in *The Scientific Revolution: A Brief History with Documents*, ed. Margaret C. Jacob (Boston: Bedford, 2010), 56–58.