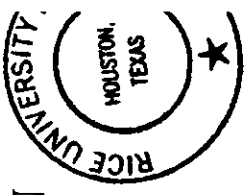


STEVEN SHAPIN



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Science and Its Conceptual Foundations  
David L. Hull, Editor

# A *Social History of Truth*

Civility and Science  
in Seventeenth-Century England



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CHAPTER ONE  
The Great Civility:  
Trust, Truth, and Moral Order

Suppose men imagined there was no obligation to veracity, and acted accordingly; speaking as often against their own opinion as according to it; would not all pleasure of conversation be destroyed, and all confidence in narration?

—Francis Hutcheson, *System of Moral Philosophy*

A social history of truth is not supposed to be possible. When people refer to some statement or belief as 'true,' they customarily mean that it 'corresponds' to the facts of the matter, to how 'things really are.' In that sense, within our own scheme of things, 'truth,' 'knowledge,' and 'the facts' indicate similar judgments, enabling us to sort out, and differentially to evaluate, a range of beliefs and statements. In all probability, every community needs some such sorting mechanism, and usages of this kind may even be universal, despite the fact that what is locally meant by 'correspondence' may be vague and varying.

That same sorting function can embed a distinction between what is 'true' and what is merely taken to be so, by some people at some time. Indeed, there is a special community of language-users called 'academic philosophers' who insist very vigorously on such a distinction. The body of locally credible knowledge—what is taken to be true—cannot be the same as 'truth,' since truth is one and what people have taken to be true is known to be many. Whatever changes over time, whatever varies from one community to another, cannot be truth and honored as such: "If truth has many faces, then not one of them deserves trust and respect."<sup>1</sup>

1. Gellner, "Relativism and Universals," 83. For a review of dominant philosophical views of truth, see, e.g., Davidson, "Structure and Content of Truth"; and R. Campbell, *Truth and Historicity*; and, for sociological criticism, see McHugh, "Failure of Positivism." Pragmatist philosophers count as a major exception to this disciplinary generalization, though they routinely fail to appreciate the locally obligatory character of

This is a restrictive notion of truth and nothing in this book counts as an argument against its legitimacy. The restrictive sensibility, after all, performs an enormously important sorting function. However, restrictive sensibilities carry with them considerable costs, and those costs become more visible as one's purpose moves from sorting and evaluating on the one hand to understanding and interpreting an array of beliefs on the other. I want to preserve from the restrictive sensibility the loose equation between truth, knowledge, and the facts of the matter, while defending the practical interest and legitimacy of a more liberal notion of truth, a notion in which there is indeed a social-historical story to be told about truth.

Communities making truth-judgments mean to distinguish statements or beliefs which correspond to reality from those which do not, and as they do so they create an automatic bias in favor of their own stock of current knowledge. We assume that all people live in a common external world and that this world has a determinate structure. So the notion of truth can point to 'what the world is like' and therefore to the culture that corresponds to it. Accordingly, this 'materialist' sense of truth grants correspondence to the beliefs we have attached to the world and may withhold correspondence from those that others have attached. This illiberality is no fault of such judgments, since sorting and differential evaluation are often just what is intended. Yet the same illiberality blocks curiosity about *how it is* that, if truth is one and the same, it has so many, and so various, claimants, how it is that truth comes always to be on 'our side,' whoever 'we' are.<sup>2</sup>

Consequently, the distinction between 'truth' and 'what locally counts as truth' can be adequate for some purposes while being fatal to others. There are groups of people dedicated to the disinterested understanding of cultural variation in belief, and for them the restrictive sensibility lacks both value and legitimacy. For historians, cultural anthropologists, and sociologists of knowledge, the treatment of truth as accepted belief counts as a maxim of method, and rightly so. If one means to interpret variation in belief, then it seems prudent to ask how it is that truth speaks in different voices, how it is that what 'they' account to be true comes to be so accounted, and to approach those inquiries with a methodological disposition towards charity. The same maxim of method cautions us momentarily to set aside what 'we' know to be true in the interest of understanding what 'they' know to be true, even to entertain the possibility that, for methodological purposes, 'we' are

another form of 'them.' The liberal sensibility towards truth, therefore, while optimistic about the potential scope of understanding, is modest when compared to the restrictive view. As ordinary social actors, truth-liberals know no less than their restrictive colleagues about the world to which knowledge-claims do or do not correspond, but they aim to set evaluation to one side in the special activity of interpreting cultural variation. The special-purpose nature of truth-liberalism is no argument against it: many of our society's most highly valued beliefs and practices, including those of the natural sciences, are adapted to quite specialized purposes. This book proceeds from the view that a social-historical approach to truth is possible, adequate, and methodologically valuable. With respect to other conceptions of truth, it is tolerant.

Set against the overall modesty of a social-historical engagement with truth is the particular nature of the knowledge to be interpreted here. I am concerned with a body of knowledge which members of our own culture routinely recognize as having special claims to truth. I will be focusing on science, on science in a setting where many aspects of what now count as reliable truth-generating practices were put in place and institutionalized, and, in general, with epistemic items widely taken to be the hardest and most fundamental elements of scientific knowledge—statements of fact, observation-reports, and the like. Olive oil freezes in a Russian winter. A comet is near the first star of Aries on the night of 18 February 1665. Minuscule 'eels' multiply in a bottle of vinegar in Delft. If such claims were judged to correspond to actual states of affairs, then seventeenth-century actors deemed them to be true and took them into their stock of natural knowledge. What we know about seventeenth-century comets draws massively on what seventeenth-century practitioners knew and therefore on how they came to know it.

If truth is not supposed to change over time—to have a history—neither is it supposed to have a sociology. Whatever bears the marks of collective production cannot be truth and honored as such, and few cultural-historical topics are more pervasive than the equation between truth, solitude, passivity, and impersonality.<sup>3</sup> In contrast, I want to argue the adequacy and legitimacy of a thoroughgoing social conception of truth. What counts for any community as true knowledge is a collective good and a collective accomplishment. That good is always in others' hands, and the fate of any particular claim that something 'is the case' is never determined by the individual making the claim.

truth-judgments: see, e.g., W. James, "Pragmatism's Conception of Truth," in *idem, Pragmatism*, 87–104.

2. Bloor, *Knowledge and Social Imagery*, 37–45.

3. E.g., Durkheim, *Elementary Forms of the Religious Life*, 436–47; Arendt, *The Human Condition*, 15–16, 301–04; Mannheim, *Ideology and Utopia*, 150–151, 254–56, 265–68; Shapin, "The Mind Is Its Own Place."

This is a sense in which one may say that truth is a matter of collective judgment and that it is stabilized by the collective actions which use it as a standard for judging other claims.<sup>4</sup> In short, truth is a social institution and is, therefore, a fit and proper topic for the sociologist's investigation.

The history of truth can be a social history because what we know about the world is arrived at, sustained, and recognized through collective action. Against dominant romantic and heroic views, it is argued that no single individual can constitute knowledge: all the individual can do is offer claims, with evidence, arguments, and inducements, to the community for its assessment. Knowledge is the result of the community's evaluations and actions, and it is entrenched through the integration of claims about the world into the community's institutionalized behavior. Since the acts of knowledge-making and knowledge-protecting capture so much of communal life, communities may be effectively described through their economies of truth. Indeed, there is a variety of sociological and philosophical idioms for drawing attention to such codependencies. Wittgenstein's later philosophical writings insisted that all justifications for our judgments of the proper and the improper, the true and the false, must come to an end. All such judgments are ultimately terminated not in a way of seeing but in a collective way of acting.<sup>5</sup> What is accepted as a justification for the truth of a proposition is shown by how communities go on together: "The danger here, I believe, is one of giving a justification of our procedure when there is no such thing as a justification and we ought simply to have said: *that's how we do it.*"<sup>6</sup>

Pragmatist philosophers reject a static conception of truth as epistemological equilibrium and, in so doing, set truth in motion: "True ideas are those we can assimilate, validate, corroborate and verify. . . . Truth happens to an idea." Truth consists of the actions taken by practical communities to make the idea true, to make it agree with reality: "the possession of true thoughts means everywhere the possession of invaluable instruments of action." William James brilliantly noted that truth lives "on a credit system": "Our thoughts and beliefs 'pass,' so long as nothing challenges them, just as bank-notes pass so long as nobody refuses them."<sup>7</sup> Richard Rorty argues that there is "nothing to be said about either truth or rationality apart from descriptions of

familiar procedures of justification which a given society—ours—use in one or another area of enquiry."<sup>8</sup> The ethnomethodologist Peter McHugh stresses the "behavior of seeking truth . . . the institutional and public character of truth, in contrast to the usual psychological and semantic descriptions that depict private disembodiments of the behavior." For the sociologist there is no other way of conceiving truth save through the study of what people do collectively. "Truth resides in the rule-guided institutional procedures for conceding it"; we have to accept "that there are no adequate grounds for establishing criteria of truth except the grounds that are employed to grant or concede it, and truth's grip on us resides in the forms of collective life which produce and uphold it." For either the analyst or the member to be radically skeptical would be "equivalent to challenging the rules to which members of a collectivity subscribe."<sup>10</sup>

This book aims to draw special attention to some moral aspects of the collective nature of knowledge. Different members of a community hold knowledge that individuals may need to draw upon in order to perform practical actions: to maneuver in the material world, to confirm the status of their knowledge, to make new knowledge, even to be skeptical about existing items of knowledge. Accordingly, in order for that knowledge to be effectively accessible to an individual—for an individual to have it—there needs to be some kind of moral bond between the individual and other members of the community.

The word I propose to use to express this moral bond is *trust*. I want to leave the notion of trust diffuse at this point, allowing its sense to emerge as the inquiry proceeds. Nevertheless, a caveat about recent technical treatments of trust needs to be entered. It has become customary to make distinctions among our usable notions of trust. The word is said to be trust in the fulfillment of inductively generated expectations about events in the world, as when we might say that we trust (or are confident) that many people catch colds in Edinburgh winters (that it will be a nice day tomorrow in San Diego. This is identified as an amoral sense of trust: no one will be blamed if expectations are not realized or if the case turns out to be otherwise.

By contrast, there is said to be a distinct sense of trust which is recognized as morally consequential. If I trust that you will meet me as promised in my office at two o'clock, then I can blame you if you

8. Rorty, "Science as Solidarity," 11.

9. McHugh, "Failure of Positivism," 320–21, 333–35. McHugh's formulation is prominently cited by H. M. Collins early in the development of the sociology of scientific knowledge: Collins, "Seven Sexes," 205; cf. Collins and Yearley, "Epistemological Chicken," 303.

10. Blum, "The Corpus of Knowledge as a Normative Order," 125.

4. For a philosophical framework broadly compatible with the position developed here, see Wellbourne, *Community of Knowledge*.

5. Wittgenstein, *On Certainty*, sects. 110, 192, 204; see also Bloor, *Wittgenstein*, esp. 116, 119, 162.

6. Wittgenstein, *Remarks on the Foundations of Mathematics*, Pt. II, 74; see also *idem*, *Philosophical Investigations*, Pt. I, sects. 325, 485.

7. W. James, "Pragmatism's Conception of Truth," in *idem*, *Pragmatism*, 88–91.

do not show up.<sup>11</sup> Both kinds of trust are systems of expectation about the world, yet only the latter is said to be morally textured. This book will mainly be concerned with the latter form, that is, trust in persons and their relations. Nevertheless, I want to suggest that this routine distinction between types of trust may be inadequately grounded. Here I will simply assert, but later will argue, that much of our sense of the world's contents and inductive regularities is built up and protected by the constitutively moral processes by which we credit others' relations and take their accounts into our stock of knowledge about the world. Indeed, the constitutive relation between the two forms of trust can be made more visible if one transforms the inductive confidence that 'many people are ill in Edinburgh in the winter' into the form *'you (and others) have told me that this is the case.'* Insofar as our factual knowledge is built up through assent to what we have been told, the two, allegedly distinct, notions of trust both belong within the same moral frame, the second routinely visible as such, the first routinely not. Moreover, I recognize, but wish to blur, a distinction between trust in affirmed actions (e.g., that you will meet me tomorrow) and trust in relations (e.g., that what you tell me about Edinburgh winters is true). Both forms of trust engender states of *belief*, and both may be implicated in schemes of coordinated action. My stock of knowledge provides the framework for my practical orientation to the world. Accordingly, while much writing about trust has focused directly upon promised actions, I will treat relevant views as equally applicable to communications about the world.

### Trust and the Order of Society

The trust-dependency of social order has always been recognized.<sup>12</sup> The order of society depends upon (some sociologists would say that it is) a complex of normatively ordered expectancies. How could coordinated activity of any kind be possible if people could not rely upon others' undertakings? No goods would be handed over without prior payment, and no payment without goods in hand. There would be no point in keeping engagements, nor any reason to make engagements with people who could not be expected to honor their commitments.<sup>13</sup> The relationship between teacher and pupil, parent and child, would be impossible if the reliability of the former as sources of knowledge were not to be granted. In all cases, the order of knowledge is recognized to be part of the normative fabric of society, and our knowledge

11. B. Barber, *Logic and Limits of Trust*, esp. 9; Luhmann, "Familiarity, Confidence, Trust," esp. 97–98; Giddens, *Consequences of Modernity*, 29–34.

12. Holzer, "Sociological Reflections on Trust."

13. A derivation for the modern English *trust* is, indeed, *tryst*—an appointed meeting.

of what people will do is considered to be reliable insofar as we believe they operate in accordance with certain moral standards, enjoining truthfulness and condemning falsehood. And our knowledge of the world is also deemed reliable insofar as we consider that certain people are reputable and veracious sources, and act appropriately with respect to their testimony.

Social theorists from antiquity to the present, writing in the most abstract or the most practical idiom, have all recognized and approved the trust-dependency of social order. Cicero stressed the virtue of "justice" in upholding society. Social order would be impossible unless one were morally enjoined "to stand to one's word in all promises and bargains." The foundation of justice was faithfulness, "which consists in being constantly firm to your word, and a conscientious performance of all compacts and bargains." To be sure, the obligation to keep a promise was not absolute; for example, if keeping it was likely to injure an individual or society, one might have no legitimate commitment. And persons "overawed by fear" or otherwise unfree when they made a promise were not deemed to have entered into a moral commitment. Yet, like other Greek and Roman social theorists, Cicero understood that social order utterly depended upon trust being rightly reposed in morally bound truth-tellers and promise-keepers. Liar and dissimulators threatened the moral fabric of society: they were "knaves" and their actions were "attended with baseness and dishonour."<sup>14</sup>

Early modern ethical writers endorsed and developed the appreciation of the role of trust in social order. The sixteenth-century English humanist Sir Thomas Elyot categorized the types of faithfulness upon which moral order depended: "faith" was belief in the promises of God; "loyalty" was the keeping of promises made by a subject to his prince; and promise-keeping between "men of equal estate or condition" was "trust." All were equally essential to the maintenance of social order. There could be no such thing as civil society if there were no trust: "O what public weal should we hope to have there, where lacketh fidelity, which as [Cicero] saith is the foundation of justice?" Without trust "a public weal may not continue."<sup>15</sup> In France, Montaigne brilliantly analyzed untruthfulness and the breakdown of trust this caused and expressed as the most serious subversions of social order. Order was founded upon our knowledge of others' minds and intentions. Hence it was utterly dependent upon the reliability of our communications about ourselves and about the state of our knowledge:

14. Cicero, *Offices*, 8–14, 111, 136–39, 152–62. On "the power of promise" in antiquity, see Arendt, *The Human Condition*, 243–45.

15. Elyot, *The Governor* (1531), 181–82.

Lying is an accursed vice. We are men, and hold together, only by our word. . . . Since mutual understanding is brought about solely by way of words, he who breaks his word betrays human society. It is the only instrument by means of which our wills and thoughts communicate, it is the interpreter of our soul. If it fails us, we have no more hold on each other, no more knowledge of each other. If it deceives us, it breaks up all our relations and dissolves all the bonds of our society.<sup>16</sup>

The more practical ethical literature of early modern Europe pervasively rehearsed the relationship between trust, truthfulness, and social order. Lodowick Bryskett noted that untruthfulness destroyed "the societie and civill conversation of men, since no man can trust . . . a lyer." Those whose actions eroded trust did not properly belong to civil society, and, since man was (as Aristotle said) a political animal, the liar lost "the title of a man."<sup>17</sup> This judgment had proverbial status in seventeenth-century England: "He that hath lost his credit is dead to the world."<sup>18</sup> In the 1620s the Anglican divine Henry Mason observed that the lie "disturbeth humane societie, and hindereth mutuall commerce": "societie and commerce must needs be disturbed, when men in wisdom may not believe one another, vpon their words or oathes."<sup>19</sup> In mid-seventeenth-century Scotland the jurist Sir George Mackenzie said that untruthfulness "striks at the root of all humane societie." Any society in which people could not routinely trust one another's relations would fall apart. It would be incapable of the complex coordination necessary for "great undertakings."<sup>20</sup> In Restoration England an archbishop of Canterbury preached that "truth and fidelity in all our dealings do create mutual love, and good-will, and confidence among men, which are the great bands of peace," and Sir Charles Wolseley argued for the necessity and propriety of trusting others' narratives: "The World it self is so framed, that Men cannot live and converse together, without putting *some trust* in each other. All the matters of the World cannot be made sure. *Trust*, is the first and chief ground of all humane Converse."<sup>21</sup> Just as trust in truth-telling was understood to be the cement of society, so untruthfulness was seen as a potent social solvent.

Explicit seventeenth-century theorizing about the proper basis of

16. Montaigne, "Of Liars" and "Of Giving the Lie," in *idem*, *Essays* (1580–1588), 23, 505.

17. Bryskett, *Discourse of Civill Life* (1606), 49; cf. MacIntyre, *After Virtue*, 151.

18. Ray, *Collection of English Proverbs* (1670), 6.

19. Mason, *New Art of Lying*, 88, 96.

20. Mackenzie, *Moral Paradox*, 18; *idem*, *Moral Essay Preferring Solitude*, 58–59.

21. Tillotson, "Sermon III. The Advantages of Religion to Societies," in *idem*, *Works*, I, 37; Wolseley, *Unreasonableness of Atheism* (1675), 153.

civil society occasionally formalized the role of trust. John Locke argued that the legitimate foundation of the obligation citizens owed to the sovereign power resided in a notion of trust—the sovereign's undertaking, commitment, or promise to the people to perform certain offices and to perform these within a specified domain of lawful action. Locke's political philosophy drew upon formal legal notions of "trust" and "trusteeship," but he also built upon a commonsensical understanding of what was involved in making a promise to another and in reposing trust in another's relations about the world. Civil society emerged out of the state of nature from people's desire to protect their property. That led them to erect an "indifferent Judge" with the authority to decide disputes "according to the established Law." The judge, or governing power, therefore accepted a trust to execute its task according to certain conditions, and in turn offered a promise that it would do so. The existing form of obligation, and of civil society, was thus coterminous with the honoring of that trust. If and when the people decided that the promise was not being honored, and the purportedly indifferent judge had lied to them, both the obligation and the social order that flowed from it were at a legitimate end. Society was made through an act of trust; it continued so long as the trust was being acquitted; and it was voided when trust was violated.<sup>22</sup>

For Locke, as John Dunn has observed, "the fundamental bond of human society—what makes it possible for human beings to associate with each other as human beings at all—is *fides*, the duty to observe mutual undertakings and the virtue of consistently discharging this duty. Truth and the keeping of faith . . . belong to 'Men, as Men, and not as Members of Society.'" Samuel Johnson reckoned that even the social order of hell was founded upon the general reliability of the utterances of the condemned: there were entirely pragmatic reasons why a society of the damned required trust no less than that of the virtuous.<sup>24</sup> The problem for social order created by untruthfulness was not lying in itself but the *unpredictable* reliability of the liar's relations. As Montaigne recognized, "If falsehood, like truth, had only one face, we would be in better shape. For we would take as certain the opposite of what the liar said. But the reverse of truth has a hundred thousand shapes and a limitless field."<sup>25</sup> The liar disoriented those who were obliged to cooperate with him or to act upon his relations.

No theorists attended more centrally to the role of trust in social

22. Locke, *Two Treatises of Government*, e.g., Bk. II, sects. 110, 155–56, 226–27; see also Dunn, "Concept of 'Trust'"; Silver, "Trust in Social and Political Theory," 52–54.

23. Dunn, "Trust and Political Agency," 80–81. Dunn here quotes Locke's *Two Treatises of Government*, Bk. II, sect. 14.

24. Johnson, *Adventurer* 50 (20 April 1753), quoted in Bok, *Lying*, 19–20.

25. Montaigne, *Essays*, 24.

order than the eighteenth-century Scots. All the Common Sense philosophers agreed that social order was predicated upon trust in others' truthfulness. Francis Hutcheson reckoned that this most basic principle of sociality was innate, one of the "immediate principles in our nature." Our fellows have a natural desire to know the truth from us, and we have a natural disposition to tell it: "Truth is the natural production of the mind when it gets the capacity of communicating it, dissimulation and disguise are plainly artificial effects of design and reflection." So great are "the general advantages of sincerity and of the mutual confidence then arising in society," and so pernicious are the "effects of insincerity and falsehood," that the necessity must be very great for any breach of truthfulness to be justified. Breaches of faith, "were they frequent in society, must destroy all social commerce."<sup>26</sup> Adam Smith likewise identified a natural disposition to believe which was likely always to prevail over tendencies to doubt and distrust others' relations. The attribution of truthfulness was fundamental to membership in the moral community:

To tell a man that he lies, is of all affronts the most mortal. But whoever seriously and wilfully deceives is necessarily conscious to himself that he merits this affront, that he does not deserve to be believed, and that he forfeits all title to that sort of credit from which alone he can derive any sort of ease, comfort, or satisfaction in the society of his equals. The man who had the misfortune to imagine that nobody believed a single word he said, would feel himself the outcast of human society, would dread the very thought of going into it, or of presenting himself before it, and could scarce fail, I think, to die of despair.

To wish to be believed by one's fellows was "a natural desire." To believe another was to give him respect and to endow him with authority: "The man whom we believe is necessarily, in the things concerning which we believe him, our leader and director. . . ." David Hume dissented from this position only in the denial that fidelity, promise-keeping, and truthfulness followed from anything innate in human nature. Fidelity was a convention, not a "natural human virtue," but being a convention made it no less fundamental to the maintenance of social order. There will be no society if there is no well-reposed trust in members' commitments and relations, no moral obligation to keep promises and speak truth.<sup>28</sup> For Hume it was a defensible conclusion of *experience* that men were "commonly" inclined towards truthful-

26. Hutcheson, *System of Moral Philosophy* (1755), II, 2-3, 28-29, 35.

27. Smith, *Theory of Moral Sentiments* (1759), 396-37.

28. Hume, *Treatise of Human Nature* (1739-40), 519-22.

ness and felt "shame when detected in a falsehood": "A man delirious, or noted for falsehood and villany, has no manner of authority with us."<sup>29</sup>

Modern social theorists have elaborated the old theme. For Durkheim the organic solidarity of modern societies was possible only because cooperative behavior was saturated with moral sentiments,<sup>30</sup> while a modern Scottish philosopher of sociability has revived an innatist version of the Common Sense tradition. Barry Barnes rejects the idea that the social-order problem is solved by insinuating society's norms into calculative asocial individuals. Infants' translation into competent adults proceeds via learning, and learning presupposes trust in the reliability of knowledge-sources: "Trust and co-operation are manifest, [as is] the quest for standing as a competent member in the relevant context. In the acquisition of language and in the acquisition of knowledge, the child reveals an inherent sociability. That sociability is essential; verbally mediated learning would be impossible in its absence."<sup>31</sup> Alasdair MacIntyre argues that members of any given social "practice," sharing the standards and values of that practice, define their relationships with each other "by reference to standards of truthfulness and trust." Without those virtues no practice has integrity.<sup>32</sup> In late twentieth-century America imputations of insincerity and dishonesty threaten to become the institutionalized language of politics, resulting not only in the further debasement of public discourse but also in renewed academic attention to the role of trust in social order. Some have noted that the force of such imputations indicates that the norms survive, while other commentators suggest that the accusation of lying is beginning to lose some of its potency. The moral philosopher Sissela Bok understands that "trust is a social good. . . . When it is damaged the community as a whole suffers; and when it is destroyed, societies falter and collapse."<sup>33</sup> Approaching the problem of wider social order from the other end, the political scientist Yaron Ezrahi has drawn attention to the ways in which scientific and technical norms in modern democratic societies have made it possible "to substitute technical discipline for moral, organizational and political controls as socially trusted guarantors of the integrity of public actions." The public order which

29. Hume, *Enquiry Concerning Human Understanding* (1748), 112.

30. Durkheim, *Division of Labor in Society*, esp. 280.

31. Barnes, *Nature of Power*, 33-34, 88-89 (drawing upon social-psychological work by Colwyn Trevarthen, e.g., "Foundations of Intersubjectivity"); cf. Polanyi, *Science, Faith and Society*, 45. Wittgenstein speculated (*Zettel*, sect. 566) that "the attitude, the behaviour of trusting" might be a human universal.

32. MacIntyre, *After Virtue*, 192-93.

33. Bok, *Lying*, 28-29, 185-91, quoting 28; see also B. Barber, *Logic and Limits of Trust*, esp. chs 1-2, 7-8.

now characterizes modern Western society is, in this view, largely grounded in trust in institutionalized bodies of instrumental expertise.<sup>34</sup>

The central role of truthfulness and trust in the constitution of society continues to preoccupy present-day micro- and macrosociological theorists. Erving Goffman's work on small-scale social interaction noticed that the dealings of individuals in the immediate presence of others have "a promissory character." Individuals present themselves to others as persons of a certain kind, likely to behave in certain ways, and, in so doing, request others actively to accept them as that kind of person. Trust in self-presentation is essential to interaction, yet only the future will tell whether that trust has been well reposed. The working consensus of social life depends upon morally textured inference: you do not know, but only infer, that if you invite me into your home, I will not steal the spoons.<sup>35</sup> The practical stability of social interaction is partly sustained by my knowledge of the expectations my presentation has generated in you. If I claim to be a certain sort of person, I acknowledge the appropriate moral expectations you have of me. Thus, as Howard Becker observes, "If one claims implicitly, in presenting himself to others, to be truthful, he cannot allow himself to be caught in a lie and is in this way committed to truth-telling."<sup>36</sup> Even writing in a game-theoretic mood, Goffman noted that "the willingness of an individual to credit another's unconditional and conditional avowals is an entirely necessary thing for the maintenance of collaborative social activity and, as such, a central and constant feature of social life."<sup>37</sup>

Trust has also been central to sociological theorizing about the nature of modernity and postmodernity. Georg Simmel recognized that truth-telling was "of the most far-reaching significance for relations among men," and that social systems varied enormously in their tolerance for lying and distrust. Very simple societies were said to be relatively tolerant of untruthfulness, whereas deceit and distrust worked lethal effects on highly differentiated and interdependent modern societies. Modern life, Simmel said, "is a 'credit economy' in a much

34. Ezrahi, *Descent of Icarus*, ch. 2, quoting 44; see also T. Porter, "Quantification and the Accounting Ideal in Science"; idem, "Objectivity as Standardization." I return to this theme in the epilogue.

35. E.g., Goffman, *Presentation of Self*, 1–14; idem, *Interaction Ritual*, esp. 5–45; idem, "Interaction Order", 3.

36. Becker, "Notes on the Concept of Commitment," in idem, *Sociological Work*, 269.

37. Goffman, *Strategic Interaction*, 104. It might also be added that social occasions vary enormously in their tolerances: contrast dealing with salespeople, teasing, and flirting with formal oath-giving. Truth-telling is policed according to what is understood and expected in the circumstances.

broader than a strictly economic sense." Here social existence "rests on a thousand premises which the single individual cannot trace and verify to their roots at all, but must take on faith." Indeed, for Simmel, trust was simply a form of faith, a normative expectation about probable outcomes.<sup>38</sup> Niklas Luhmann treats trust within a broadly functional perspective. It is a necessary mechanism for dealing with and reducing complexity. It is "a basic fact of social life" without which one could not get out of bed in the morning, still less function as a competent member of any conceivable social order. We take a necessary risk in reposing trust; we anticipate a future containing others' actions, treating it as though it were certain, with the result that it *can be* about as certain as anything else. Trust offers us a basis for action, considering only certain possibilities in the future instead of an infinite range.<sup>39</sup>

Trust is integral to social order, yet the manner in which trust is reposed is said to distinguish modern from premodern order. Modernity produces a highly complex array of social information while reducing the familiarity with people that was the basis of traditional trust. In the past, we made judgments of other people; now we are obliged to trust in impersonal systems, for the cost of doing otherwise is unbearable. Anthony Giddens diagnoses the modern condition as a set of "disembedding mechanisms" by which relations more and more take place between individuals separated in space and in which social relations in a given space and time are more and more infiltrated by physically absent others. Social relations are lifted out of local scenes of interaction and restructured in abstract time-space. All disembedding mechanisms—think of money—depend upon trust. Like Simmel and Luhmann, Giddens sees modernity as the shift from reposing trust in individuals in contexts of face-to-face interaction to trust in systems and abstract capacities. We board a plane trusting it to get us safely to our destination not because we have familiarity with the design engineer or the pilot but because we trust that reliable systems of expertise were brought to bear in constructing the plane and will be devoted to flying it.<sup>40</sup>

38. Simmel, "The Lie," in idem, *The Sociology of Georg Simmel*, 312–13; idem, *Philosophy of Money*, esp. 179; see also Holzner, "Sociological Reflections on Trust," 337–38.

39. Luhmann, *Trust and Power*, esp. 4, 7–8, 10, 21–22; see also idem, "Familiarity, Confidence, Trust"; Holzner, "Sociological Reflections on Trust," 333–34, 340–41; B. Barber, *Logic and Limits of Trust*, 10–11; Silver, "'Trust' in Social and Political Theory," 59–63; Dunn, "Trust and Political Agency," 85; and, for extended treatment of the relationship between trust, credibility, and social order, see Elster, *The Cement of Society*, 272–87.

40. Giddens, *Consequences of Modernity*, esp. 21–27, 79–85. To be sure, if planes routinely crashed we would not place much trust in these systems of expertise, and I will deal later with the source of the factual knowledge we might use to make a judgment

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### Trust and the Order of Knowledge

There is no missing the role of trust in thinking about the problem of social order. Social theorists have always noted it, commented upon it, and practically addressed themselves to threats to social order posed by abusing trust or unwarrantably withholding trust. What could social order be without the interdependence signaled and enabled by the allocation of trust? By contrast, the role of trust and authority in the constitution and maintenance of systems of valued *knowledge* has been practically invisible. The problem, indeed, has not been one of neglect. Rather, much modern epistemology has systematically argued that legitimate knowledge is defined precisely by its rejection of trust. If we are heard to say that we know something on the basis of trust, we are understood to say that we do not possess genuine knowledge at all. It is unwise to take the world on trust. Fools, cowards, and quacks do that sort of thing, and that is one way we recognize them as such. Trust and authority stand against the very idea of *science*. While Montaigne claimed that there was "no harm" in the fact that "almost all the opinions we have are taken on authority and on credit,"<sup>41</sup> the seventeenth-century 'moderns' distinguished themselves from the Scholastic 'ancients' precisely through the opposite view. From Gilbert and Bacon to Descartes and Boyle, the new philosophers of nature and their cultural allies avowed the supremacy of direct individual experience or intuition over trusting the authority of previous writers. Natural knowledge, properly so called, was founded in the evidence of nature or of individual reason, not in the say-so of traditionally trusted sources, and chapter 5 will briefly review the terms in which seventeenth-century scientific practitioners sought to reject or discipline the role of trust.

This was the optimistic and individualistic epistemology parodied by Sir Karl Popper: "there was no need for any man to appeal to authority in matters of truth because each man carried the sources of knowledge in himself."<sup>42</sup> The Restoration natural theology of Edward Stillingfleet lamented the distorting effects of collective practices upon truth: "There are *few* in the world that *look* after *truth* with their own eyes, most make use of *spectacles* of others making, which makes them so seldom *behold* the proper *lineaments* in the *face* of truth; which the several *trinctures* from *education, authority, custom, and predisposition* do

of that sort. The epilogue picks up an important claim Giddens briefly makes in this connection about personal "access points" in one's relationship with the institutions that house expertise.

41. Montaigne, "Of Physiognomy," in *idem, Essays*, 792.

42. Popper, *Conjectures and Refutations*, 5, also 15–18.

exceedingly *hinder* men from *discerning* of."<sup>43</sup> John Locke laid it down that "in the sciences, every one has so much as he really knows and comprehends. What he believes only, and takes upon trust, are but shreds." There was no more common, or more defective, way men used to "regulate their assent" than to pin their faith on "the opinion of others." That way lay both epistemic error and moral danger: "If the opinions and persuasions of others, whom we know and think well of, be a ground of assent, men have reason to be Heathens in Japan, Mahometans in Turkey, Papists in Spain, Protestants in England, and Lutherans in Sweden."<sup>44</sup> Knowledge is supposed to be the product of a sovereign individual confronting the world; reliance upon the views of others produces error. The very distrust which social theorists have identified as the most potent way of dissolving social order is said to be the most potent means of constructing our knowledge.

### A Skeptical Experiment

Let us, therefore, conduct an experiment with distrust. Take an item of present-day factual knowledge which we know with as much confidence as any other. This item will then stand for the epistemic result of whatever processes constitute and maintain the knowledge we consider most true and most reliable. I propose that we take the factual proposition that 'DNA contains cytosine.' I assume that many readers—having encountered elements of molecular biology in common or specialized cultures—give their assent to this claim and regard it as true. I further assume that a sizable proportion of the same group do not hold this knowledge on the basis of their own direct experience and have never had occasion to attempt individual verification. Given modern individualistic epistemological preferences, that group ought to be satisfied that they do not possess genuine knowledge at all, although they may be disposed to say that there are *other* individuals who are properly entitled to that knowledge on grounds of direct experience. This expert group would presumably include all those people who apparently do not hold their knowledge of DNA on the basis of trusted sources but are satisfied that they have checked out the relevant bit of reality firsthand.

As it happens, I belong to the latter group. When I worked in a genetics laboratory many years ago, I extracted DNA from mammalian cells and then subjected it to chemical analysis. It may therefore be

43. Stillingfleet, *Origines Sacrae* (1662), 7.

44. Locke, *Essay Concerning Human Understanding*, Bk. I, ch. 3, sect. 24; Bk. IV, ch. 15, sect. 6; see also *ibid.*, ch. 17, sect. 19; ch. 20, sect. 17. Locke's formulation closely paralleled that of Boyle ("Christian Virtuoso, Appendix to First Part," 712).

said that I enjoy firsthand, and properly founded, knowledge of the identity of DNA. Here was what I did:<sup>45</sup> I was given some pieces of rat liver which I then minced and froze in liquid nitrogen; I ground the frozen tissue and suspended it in digestion buffer; I incubated the sample at 50° C for 16 hours in a tightly capped tube; I then extracted the sample with a solution of 25 : 24 : 1 phenol/chloroform/isoamyl alcohol and centrifuged it for 10 minutes at 1700 × g in a swinging bucket rotor. Transferring the top (aqueous) layer to a new tube, I added ½ volume of 7.5 M ammonium acetate and 2 volumes of 100% ethanol. A stringy precipitate then formed in the tube, which was recovered by centrifugation at 1700 × g for 2 minutes. I rinsed the pellet with 70% ethanol, decanted the ethanol, and air-dried the pellet. I went on to hydrolyze the sample and to perform a chemical test confirming the presence of the nucleotide cytosine. This was DNA; I had it in my hand; and I had verified the facts of its composition.

A moment's reflection about this experience gives grounds for skepticism about the 'firsthand' character of my knowledge. I knew that a certain outcome of a chemical test stood for the presence of cytosine, just as I knew that the dried precipitate which I held in my hand was DNA. I do not recall that I, or any other worker in that laboratory, expressed any skepticism about the nature of the precipitate or the adequacy of the test for cytosine, but, of course, I could have. I could, for example, have sought further to verify the identity of the precipitate by subjecting it to additional chemical, as well as biological and physical, assays. It would have been very time-consuming and I would have made myself a nuisance by requiring the appropriate verification, but there was no reason in principle why I could not have done so. I might then have considered that I was *finally* entitled to say that I had my factual knowledge of DNA directly, without reliance upon trustworthy sources.<sup>46</sup>

Skepticism is always a possible move, but its possibility derives from a system in which we take other relevant knowledge on trust. My extraction of DNA took on trust the identity of the animal tissue sup-

45. Or, to be absolutely truthful, this is an updated protocol of the general procedure I must have used, since I cannot now remember the technical details and my laboratory notebooks have been lost: "Preparation and Analysis of DNA," in *Current Protocols in Molecular Biology*, Supplement 9, eds F. M. Ausubel et al., New York: Wiley, 1990. (I thank Joshua Jorgensen for pointing out how out-of-date my scientific training had become.) As a general matter, when people say that they warrant knowledge on the basis of firsthand experience, they should almost always be heard to say that they do so on the basis of their *memory* of that experience—an argument well made by John Locke, *Essay Concerning Human Understanding*, Bk. IV, ch. 16, sects. 1–2.

46. Here I set aside treatment of the trust-dependency of the *generalization* involved in the move from my factual findings about *this sample of DNA* to the fact about cytosine in *the genus DNA*.

ported, the speed of the centrifuge, the reliability of thermometric readings, the qualitative and quantitative makeup of various solvents, the rules of arithmetic. Of course, I could have, in principle and at considerable cost of time and money, adopted a skeptical posture about the truthfulness of the label on the 'ethanol' bottle, and consequently about the competence and honesty of whoever prepared the liquid. I could have tested the putative ethanol for its chemical and physical properties. In so doing, I would probably have relied upon the competence and honesty of whoever prepared the instruments and chemicals I would then be using in distrusting the identity of the alleged ethanol. It should, therefore, be obvious that each act of distrust would be predicated upon an overall framework of trust, and, indeed, all distrust presupposes a system of takings-for-granted which make *this instance* of distrust possible. Distrust is something which takes place on the *margins* of trusting systems.<sup>47</sup> While actors' schemes may set trust and skepticism in opposition, the invitation to the analyst is to envisage a relationship between trust and skepticism in which the character of skepticism depends upon the extent and quality of trust.

This experiment in distrust was, of course, wholly imaginary. It is safe to assume that no practicing scientist has ever carried skepticism so far. Both pragmatic and moral considerations weigh against even considering such thoroughgoing skepticism. Commitment to distrust on that scale would oblige skeptics to work backwards through their community's accumulated knowledge. Cultural change, and what counted as progress in the field, would be forced, against considerable resistance, to run in reverse. Counterlaboratories would have to be constructed and grant proposals would have to be written for the announced purpose not of securing new knowledge but of subjecting some of the community's hard-won and stable knowledge to systematic scrutiny. Indeed, the very identity and solidarity of the scientific community stem from members' need to trust each other if each individual is to add to the stock of credible knowledge.<sup>48</sup> If skeptics were able, and enabled, to persist, they could, however, envisage an outcome to their indefinite perseverance: they would ultimately succeed in knowing nothing at all. A piece of suggestive, if disputable, etymology links

47. See Barnes's concise account of the knowledge-dependency of skepticism with respect to anomalous scientific findings: *About Science*, 59–63; and, for practical trust in the black boxes of modern science, see Jordan and Lynch, "The Sociology of a Genetic Engineering Technique," esp. 93, 102.

48. The exposition of Bruno Latour's network-theory of scientific knowledge (*Science in Action*, ch. 1) utilizes such an imaginary exercise in distrust while preferring an apparently coercive to a moral-pragmatic conception of the limits to skepticism. For an ethnographic engagement with trust and credibility in modern science, see Latour and Woolgar, *Laboratory Life*, ch. 5.

the English words *trust* and *truth* through a Germanic word for "tree"<sup>49</sup>—as firm and straight as a tree. Trust/truth is therefore, like a tree, something to be relied upon, something which is durable, which resists and will support you. Without that durable thing to lean on, you could not do anything.

There are moral as well as pragmatic reasons which make distrust difficult. It is at least uncivil, and perhaps terminally so, to decline to take knowledge from authoritative sources. And if it is considered discourteous to distrust professors of biochemical genetics, it is not much less ill-mannered to express skepticism about the reliability and sincerity of the suppliers of the instruments and reagents on which the smooth running of the laboratory (and the discipline) depend. Skeptics run the real risk of being ejected from the practical communities of which they are members. Their skepticism expresses an uncooperativeness which invites uncooperativeness from others. Persistent distrust, therefore, has a moral terminus: expulsion from the community. If you will not know, and accept the adequate grounds for, what the community knows, you will not belong to it, and even your distrust will not be recognized as such. Radical skepticism cannot survive the short trip from the solitude of the study to the street, as, indeed, David Hume recognized: "The great subverter of *Pyrrhonism* or the excessive principles of scepticism is action, and employment, and the occupations of common life." What may flourish "in the schools" vanishes "like smoke" in everyday conversation.<sup>50</sup> However far the skeptic pushes his principles, "he must act . . . and live, and converse like other men; and for this conduct he is not obliged to give any other reason than the absolute necessity he lies under of so doing."<sup>51</sup> Mary Douglas's observation that radical skepticism is incompatible with "the commitment to ordering and organizing" people is, therefore, a moral expansion of Wittgenstein's dictum that "doubting has an end."<sup>52</sup>

Skepticism and the search for independent verification are, without doubt, real and substantial features of both lay and scientific systems of empirical knowledge. We can, and many people do, distrust what some authoritative source says about the world, though such distrust is certainly a far less pervasive and systematic feature of natural scientific practice than some of the more fanciful textbook sociologies and phi-

49. Partridge, *Origins*, 740.

50. Hume, *Enquiry Concerning Human Nature*, 158–59; see also idem, *Treatise of Human Nature*, 183; and Toulmin, *The Uses of Argument*, 163–66, 230–32.

51. Hume, *Dialogues Concerning Natural Religion* (comp. ca. 1751–55), 134.

52. M. Douglas, "Social Preconditions of Radical Scepticism," 78; Wittgenstein, *Philosophical Investigations*, Pt. II, v.

losophies would have us believe.<sup>53</sup> Replication *happens*, and the claim of even the most prestigious scientist are occasionally subjected to independent trial. I do not argue for the role of trust *against* that of experience and its modes (including replication), though, indeed I want draw attention to how much of our empirical knowledge is held solely on the basis of what trustworthy sources tell us. Rather, I want establish the ineradicable role of trust, even in skeptical search for an individual and independent grounding of knowledge. Insofar as experience is obliged to transit a nexus of trust in order to become part of our knowledge, then there is no aspect of our knowledge that can speak about which can be set apart from our moral order.

Neither scientists nor laypeople have experience, as it were, by itself whenever experiments are performed and the results of empirical engagement with the world are reported and assessed, this is done with some system in which trust has been reposed and background knowledge taken for granted. When we have experience, we recognize it as experience-of-a-certain-sort only by virtue of a system of trust through which our existing state of knowledge has been built up. In every speech it is, indeed, sensible to say that there is trust and there is experience, and in this book I am content, for the most part, to let the categories of common speech in order to understand how the categories are constituted. But it is incorrect to say that we can have experience outside a nexus of trust of *some kind*. Such skeptics as we choose to exercise is not a stepping outside of trust; it is, instead the attempted calibration of one dubiously trustworthy source by others assumed to be trustworthy. This is, no doubt, not how the search for independent verification appears to skeptics. They may seek discipline trust by *plausibility*, by comparing the claim in question with an overall ordered sense of what the world is like.<sup>54</sup>

In *actors' schemes* the plausibility of a claim and the trustworthiness of a claimant can appear as independent variables, which, when summed factored, or compared together, yield a reliable judgment of credibility. Hume's argument that it was more likely that tellers of miracle-ta-

53. A number of sociologists of science have, for example, drawn attention to the relative rarity of experimental replication. Polanyi (*Personal Knowledge*, 217) noted if we attempted to replicate any appreciable part of the observations of science failed to do so, "we would quite rightly ascribe our failure to our lack of skill"; see Collins, *Changing Order*, esp. chs 2, 4. Mertonian sociologists have established what a large proportion of scientific papers are never even cited: Cole and Cole, *Social Stratification in Science*, 228; Hagstrom, "Production of Culture in Science," 762; see also Ziman, *Relativism in Science*, 130; Hull, *Science as a Process*, 348, 394.

54. An early attempt to assess the role of plausibility schemes in scientific judgment is B. Harvey, "Plausibility and the Evaluation of Knowledge," and in chapters 5 and 6 I offer a detailed account of the role of plausibility judgments.

were deceived or deceitful than that their alleged matters of fact had really happened is perhaps the most celebrated instantiation of this binary credibility-testing scheme.<sup>55</sup> Yet that apparently independent sense of plausibility was not, as Wittgenstein noted, acquired by “satisfying myself of its correctness; nor do I have it because I am satisfied of its correctness. No: it is the inherited background against which I distinguish between true and false.”<sup>56</sup> Our schemes of plausibility, which become so naturalized that they appear wholly independent of trust, were themselves built up by crediting the relations of trusted sources. The *appearance* of plausibility as an independent criterion is the result of a massively consequential *evaluation*, splitting judgments of what is the case from the everyday relations by which knowledge is made, sustained, and transmitted. Plausibility incorporates judgments of trustworthiness *at a remove*. It is trust institutionalized.

### Trust and the Order of Scientific Knowledge

Some theorists opposed to individualistic and empiricist accounts of knowledge have pointed to the constitutive role of trust in systems of knowledge generally. The phenomenologist Alfred Schutz’s account of everyday knowledge stressed that “only a small part of my knowledge of the world originates within my personal experience. The greater part is socially derived, handed down to me by my friends, my parents, my teachers and the teachers of my teachers.” In all cases, that knowledge only becomes ‘mine’ through a prior allocation of trust in others.<sup>57</sup> In everyday life, we take our knowledge from a friend who “knows what he’s talking about,” and from sources treated as “the eyewitness,” “the insider,” “the analyst,” and “the commentator.”<sup>58</sup> Wittgenstein reckoned that all knowledge grew from foundations in trust: “The child learns by believing the adult. Doubt comes *after* belief.” As children “we learn facts; e.g., that every human being has a brain, and we take them on trust.” And as adults we continue to take authoritative knowledge on trust, believing “what people transmit to me in a certain manner.” Skepticism can only be carried so far before

55. Hume, *Enquiry Concerning Human Understanding*, sect. 10 (“Of Miracles”). Wellbourne (*Community of Knowledge*, 5–6) usefully notes that deliberative weighing of testimony is probably relatively rare: “All that is required of a listener who understands a knowledgeable teller if the knowledge is to be successfully transmitted to him is that he believe the teller.” Later chapters dwell upon episodes of deliberative assessment while also analyzing the cultural schemes which justify belief in particular sorts of narrators.

56. Wittgenstein, *On Certainty*, sect. 94.

57. Schutz, *Collected Papers*, I, 13–14; see also idem, *On Phenomenology and Social Relations*, 236–42; Fleck, *Genesis and Development of a Scientific Fact*, 38, 41–43.

58. Schutz, *Collected Papers*, II, 131–34; Embree, “Schutz on Science,” 255–57.

it collapses in the face of our commitments to a shared way of acting: “The difficulty is to realize the groundlessness of our believing.”<sup>59</sup>

The exercise of retrieving the role of trust in the construction and maintenance of our most valued systems of knowledge is beset with particular difficulties. I have already noted seventeenth-century ‘modern’ rhetoric identifying trust-dependency as a massive epistemic fault. In the nineteenth century, commentators noted, and usually lamented, the growing differentiation and specialization of scientific culture, which made it impossible for any one individual to hold the whole of science in his head. Some writers even doubted whether it was right to refer to a ‘corpus of knowledge’ if no one person knew it, while others drew attention to the forms of social solidarity which made collectively held knowledge possible.<sup>60</sup> While modern orthodox philosophy of science tends to presume a solitary knower confronting reality, several naturalistically inclined philosophers have acknowledged the facts of cognitive differentiation and division of labor in systems of knowledge.<sup>61</sup> Hilary Putnam, for instance, points to the universal fact “that there is a *division of linguistic labor*.” Members of the English-speaking community can reliably use the word *gold* without being able on their own to distinguish the genuine from the fake metal. In everyday usage, it is sufficient that we are aware that there are people who possess the relevant knowledge and who may be considered to vouch for the genuineness of the piece of jewelry we propose to buy. The various parts of the meaning of the word *gold* are distributed across a collectivity. Knowledge may be held by a community even if it is possessed by very few individuals in it. Language-use in lay and scientific contexts alike “require[s] the cooperative activity of a number of persons,” and cooperation presupposes a moral bond.<sup>62</sup> Richard Rorty has proposed that such epistemological differentiating notions as “objective truth” be replaced by “unforced agreement” among practically acting communities. “Rationality” is a mode of “civility,” and “truth” is given an intersubjective reading as knowledge-freely-held-in-common, which is but another way of identifying the role of trust in the production and maintenance of knowledge: “The only sense in which science is exemplary is that it is a model of human solidarity.”<sup>63</sup>

59. Wittgenstein, *On Certainty*, sects. 159–62, 166, 170; see also 23, 34, 196, 204, 220, 263, 600: “What kind of grounds have I for trusting text-books of experimental physics? I have no grounds for not trusting them.”

60. E.g., Durkheim, *Division of Labor in Society*, 356–64 (esp. the treatment of Comte and recommendation that philosophy act as “the collective conscience of science”).

61. After this book was completed two fine philosophical treatments of trust and testimony appeared which bear significantly upon these arguments: Coady’s important *Testimony* and Hardwig’s concise account of “The Role of Trust in Knowledge.”

62. Putnam, “The Meaning of ‘Meaning,’” 227–29.

63. Rorty, “Science as Solidarity,” 12, 14–15.

A number of modern philosophers have drawn back from the full-blooded individualist skeptical model which informed so much traditional philosophy of science. Popper's assault on empiricist epistemologies pointed out that most of our assertions about the world "are not based upon observations, but upon all kinds of other sources," including being told the thing by an alleged eyewitness. Yet if you went on to question these eyewitnesses about the sources of their knowledge, "you would in fact never arrive at all those observations by eyewitnesses in the existence of which the empiricist believes. You would find, rather, that with every single step you take, the need for further steps increases in snowball-like fashion."<sup>64</sup> Popper's knockabout criticisms of "Vulgar Marxist" and Mannheimian sociologies of knowledge vigorously attacked what he took to be their *individualism*: "objectivity is closely bound up with the *social aspect of scientific method*, with the fact that science and scientific objectivity do not result from the attempts of individual scientists to be 'objective,' but from the cooperation of many scientists. Scientific objectivity can be described as the intersubjectivity of scientific method."<sup>65</sup> Popper's later location of "epistemology without a knowing subject" in a Platonic "Third World" was a retreat: a naturalistic epistemology requires cooperating collectivity, not a knowing subject or a Third World.<sup>66</sup>

Philip Kitcher's recent work represents a sustained, articulate, and powerful philosophical assault on the doctrine of the solitary scientific knower. In an apparently sociological mood, Kitcher argues against those who would deny, or deny the epistemological relevance of, the social character of scientific and mathematical knowledge. He draws attention to the fact that individuals' knowledge is rooted in the authoritative knowledge of their community, which knowledge is, in turn, historically grounded in the authoritative knowledge of preceding communities: "There is very little that we know without reliance on the testimony and support of others. Even in the case of empirical science, most of the knowledge of each individual is based, not on direct experience, but on the communications of others." Even those

"happy few" enjoying direct experience "are dependent on their colleagues. . . . Their knowledge is sustained, in part, by communal approval of their techniques and background assumptions."<sup>67</sup>

Kitcher approaches the sociological cliff, but draws back just in time those "very litle," "mosts," and "in parts" emerge as crucial. There is a division of cognitive labor in science, but, in Kitcher's view, the grounds on which individuals are trusted and deemed to be authoritative are empirically adjudicable and rationally explicable. There is, be sure, plenty of room for authority and trust in science, and a philosophical project can supposedly instruct scientists whether or not it proper to rely on authority and go on trust. But rational scientists Kitcher's account can sometimes—even if it is judged impractical—"better" than that. Kitcher's scientists are cognitive maximizers who, the interests of enhancing output, *may* rationally decide to jettison authority and trust.<sup>68</sup> Using a game-theoretic idiom, Kitcher envisages a process called "direct calibration," which permits scientists' "earned authority" to be computed by individual inspection of their history "truth-ratio."<sup>69</sup>

The work of Michael Polanyi has been notably invisible even to the philosophers of science who have alluded to the social character of scientific knowledge. Polanyi stressed the cognitive differentiation of scientific culture and the trusting relationships that differentiation engendered and expressed. If scientists only knew what was available to them via direct experience, they would, Polanyi observed, know very little indeed. No scientist, however expert, encompasses the knowledge of his or her science as an *individual*: "The overwhelming proportion of our factual beliefs continue therefore to be held at second hand through trusting others." Scientists, like the laity, hold the bulk of the knowledge, so to speak, by courtesy. The learner "must believe before he can know." Trusting is a form of faith indispensable to the holder and growth of scientific knowledge: it is "a passionate pouring of oneself into untried forms of existence." Trust is a creative as well as conservative force in science. Since each acceptance of authoritative knowledge at the same time modifies existing usage, trusting is an unending means for the extension and modification of knowledge. And even the most radical forms of scientific skepticism operate "in partial submission to an existing consensus: for the revolutionary mu-

67. Kitcher, *Nature of Mathematical Knowledge*, 5, 91.

68. Kitcher, *Advancement of Science*, ch. 8 ("The Organization of Cognitive Labor and the Role of Individual Reason.")

69. Kitcher, *Advancement of Science*, 306–18. My chapters 5 and 6 will argue that our knowledge of others' 'track-records' is itself trust mediated.

64. Popper, *Conjectures and Refutations*, 22–23. Popper here conceived an exercise in distrusting a factual report in *The Times* roughly parallel to my DNA example. Phone call to Popper, 1994. Popper and you are informed that a reporter was told the matter of fact by the prime minister's office. The dedicated empiricist-skeptic would wind up requiring suitable responses to demands for the reporter's name and for assurance that the voice that informed him did indeed come from Downing Street, *ad infinitum*.

65. Popper, *The Open Society and Its Enemies*, ch. 23 ("The Sociology of Knowledge"), quoting 403 (italics in original).

66. Popper, *Objective Knowledge*, chs. 3–4; cf. Bloor, "Popper's Mystification of Objective Knowledge."

speak in terms that people can understand."<sup>70</sup> For all Polanyi's emphasis upon the pervasiveness of trust in science, he did not accept its foundational role. Even though scientist A was obliged to take the knowledge of scientist C on trust, he or she was able directly to check over the knowledge of B who was, in turn, competent to assess C. In this way, Polanyi claimed, direct experience connected the elements of a scientific system, and guaranteed its reliability, even though an individual's experience did not extend very far through the system.<sup>71</sup>

By contrast, Barry Barnes has no such reservations about the role of trust and authority at all points in a scientific system of belief and practice. If, as is usually the case, one conceives of a solitary individual as the unit of action, then knowledge and action can be directly related to each other. Barnes offers a vividly instructive example from our knowledge of elementary geometry:

If an individual knows Euclid's geometry up to the twentieth theorem we can straightforwardly say that he is in a position to prove the twenty-first theorem: he knows all it is necessary to know. But imagine that this knowledge is spread over the members of a society, some known by some individuals, some by others. We cannot say of this society that it knows enough to prove the twenty-first theorem. To think of the society as an individual writ large in this way would be quite misconceived. Suppose that the different individuals, with the different necessary bits of knowledge, did not know each other, or how to find each other. Or suppose they did not trust each other, or know how to check on each other's trustworthiness. In both cases, the twenty-first theorem would remain unproven. The technical knowledge would have been present in the society, but not the necessary internal ordering—the necessary social relationships—for the proof

70. Polanyi, *Personal Knowledge*, 207–08; see also 216, 240–41, 375; idem, *Knowing and Being*, 55; and the less-known work of Yves Simon (e.g., *General Theory of Authority*, ch. 3). The creativity involved in recognizing a new situation as one of a certain kind has been stressed in Howard Becker's sociological view of culture: *Doing Things Together*, ch. 1, esp. 16–19. Bernard Barber ("Trust in Science"; *Logic and Limits of Trust*, 156–62) argues that the modern scientific community has witnessed a resurgence of awareness of members' fiduciary responsibilities to their closest colleagues and to the scientific community as a whole, and, indeed, recent American preoccupation with scientific sloppiness and dishonesty has publicly underscored the trust-dependency of scientific knowledge: e.g., Broad and Wade, *Betrayers of the Truth*; Stewart and Feder, "The Integrity of the Scientific Literature"; Turner, "Forms of Patronage"; Chubin, "Scientific Malpractice"; cf. Bodewitz, Buurma, and de Vries, "Regulatory Science and the Social Management of Trust."

71. Polanyi, *Personal Knowledge*, 217; idem, *Science, Faith and Society*, 48–49 (a claim endorsed in Kitcher, *Advancement of Science*, ch. 8, sect. 7); cf. Ziman, *Public Knowledge*, 65–66, 137–38. This argument, of course, sets aside the foundational role of trust identified in the imaginary skeptical experiment regarding DNA.

to be executed. Individuals would have known enough mathematics, but not known enough about themselves.<sup>72</sup>

The example is, of course, fully generalizable to empirical systems of knowledge.<sup>73</sup> To have knowledge that DNA contains cytosine, it is necessary to have at hand not only solutions of chemicals but solutions to the problem of trust. And the same is the case if one means to be skeptical about the composition of DNA. Take any practical action or cultural move in science; then imagine that all trusting social relationships were canceled. Consider the void that would be left. Our prevalent understanding of science—though not, of course, science itself—is thus deeply paradoxical. We traditionally and formally warrant scientific truth by pointing to individual empirical foundations, yet nothing recognizable as scientific knowledge would be possible were that knowledge actually to be individually sought and held. Nor would the paradox be resolved if we conceived of scientific knowledge as the aggregate of what individuals hold in their heads. To the aggregate of individuals we need to add the morally textured relations between them, notions like authority and trust and the socially situated norms which identify who is to be trusted, and at what price trust is to be withheld. The epistemological paradox can be repaired only by removing solitary knowers from the center of knowledge-making scenes and replacing them with a moral economy.

### Trust and the Problem of Order

I have now drawn attention to the relatively well-understood role of trust in underwriting social order; I have sketched some obstacles which stand in the way of acknowledging the role of trust in the production and protection of valued systems of knowledge; and I have pointed to some resources available for extending that appreciation. Solutions to the problem of trust are necessary for building both social and cognitive order; indeed, there must be such practical solutions as a condition for actors' or analysts' being able to recognize social or cognitive order. But it would be incorrect to assume that these solutions are distinct: the problems of social order and cognitive order are addressed together. There is a variety of academic idioms in which the social order—cognitive order dualism has been criticized. I want briefly to offer a rather abstract account of these critiques, not as a self-contained exercise in theoretical synthesis, but so that some fully

72. Barnes, *About Science*, ch. 3, quoting 82. A relatively attenuated, but still interesting, engagement with the collectivism of science is Ziman, *Public Knowledge*.

73. Bloor (*Knowledge and Social Imagery*, 168–69) works through a parallel argument for the case of Boyle's law.

general problems and themes will resonate in the reader's mind through the historical narratives which follow.

In social theory and the sociology of knowledge, the neo-Durkheimian tradition has provided one of the most powerful solvents of the opposition that makes the relationship of culture and society problematic. Mary Douglas has consistently pressed the case for treating culture as a set of instruments for making and unmaking social order. The order of society can be conceived of as an order of shared knowledge. The construction and maintenance of a system of knowledge can be treated in the same way as any other collective good.<sup>74</sup> Similarly, Barnes invites us to consider society "as a persisting distribution of knowledge": "How people act depends upon what they know. Anything that is known may affect how people act. Therefore, everything that people know is constitutive of their existence as a society."<sup>75</sup> Even the cognitive processes that generate beliefs and representations are unintelligible in individualistic terms, since, in Douglas's striking phrase, "our colonization of each other's minds is the price we pay for thought."<sup>76</sup> Social institutions require sources and grounds of legitimacy: every institution needs a bit of culture that testifies to "its rightness in reason and in nature."<sup>77</sup>

If society is to be conceived as a distribution of knowledge, how is that network of distribution possible? And if knowledge is generated and upheld by a communal moral order, how is that community possible? Questions of this sort informed the phenomenological tradition in philosophy and social theory, and I want, by way of sketching some characteristic procedures and presuppositions in phenomenology, to prepare the ground for a well-founded historical inquiry into the role of trust in the production of credible factual knowledge. Phenomenological inquiry has been centrally concerned with the texture of everyday relationships between moral and cognitive order. What is it that we have to suppose—about ourselves and about the world—for both social order and held-in-common knowledge to be possible? What, indeed, is it that we have to presume to allow arguments over variation

74. M. Douglas, *How Institutions Think*, esp. 8, 19, 32, 45.

75. Barnes, *Nature of Power*, 45–46; see also idem, "Ostensive Learning and Self-referring Knowledge," esp. 197–99.

76. M. Douglas, *Implicit Meanings*, xx, or, less elegantly: "In his very negotiating activity, each [individual] is forcing culture down the throats of his fellow men" (idem, "Cultural Bias," 189). Cf. Fleck, *Genesis and Development of a Scientific Fact*, 42: "Cognition is the most socially-conditioned activity of man, and knowledge is the paramount social creation."

77. M. Douglas, *How Institutions Think*, 45–47, 55; see also Barnes, *Nature of Power*, 46; Wuthnow, *Meaning and Moral Order*, esp. chs 3–5. Douglas uses "institution" to refer to any legitimized social group, irrespective of size or level of organization—the Conservative party or the 'core-set' of expert nucleic acid biochemists.

in knowledge to proceed and communal membership to be contested or rejected?

From Edmund Husserl to Maurice Merleau-Ponty and Alfred Schutz, the phenomenological tradition has pointed to two related primordial suppositions embedded in the practices of everyday life. First, commonsense action supposes that there is a world external to us, that this world has a certain objective determinate order, and that this order is independent of the acts of observation or representation by which it is known and reported. Everyday thought and action, therefore, are predicated upon robust and confident commonsense realism. Skepticism is, of course, possible within this everyday realism, but it is that robust realism which permits skepticism to happen: "The attitude of everyday life sustains particular doubts, but never global doubts. Indeed, that the existence of the world is never brought into question is an essential requirement for any particular doubt."<sup>78</sup> Doubting, as Bloor puts it, is parasitic on trust.<sup>79</sup> Second, everyday action supposes that we and other human beings are so constituted that this objective and determinate external world is, *ceteris paribus*, available to the perceptions of all of us, and that when we are satisfied that each of us is attending to the same spatiotemporal region, we are seeing an instance of 'the same thing' together.

Taken together, these presuppositions amount to what phenomenologists have called "the natural attitude" of everyday life.<sup>80</sup> And in everyday life this is an *attitude* and not an object of reflective thought. The

78. Zimmerman and Pollner, "The Everyday World as a Phenomenon," 84 (following Schutz); see also Zimmermann, "Facts as a Practical Accomplishment," 133; Bloor, *Knowledge and Social Imagery*, 41–42. Cf. Wittgenstein, *On Certainty*, sect. 105: "All testing, all confirmation and disconfirmation of a hypothesis takes place already within a system. . . . The system is not so much the point of departure, as the element within which arguments have their life"; also sect. 232.

79. Bloor, *Wittgenstein*, 162.

80. This discussion draws upon Husserl, *Ideas*, 101–11; Schutz, *Collected Papers*, I, 7–19, 208–09, 218–22; Berger and Luckmann, *Social Construction of Reality*, ch. 1; Pollner, *Mundane Reason*, ix–xv, 2–16; Heritage, *Garfinkel and Ethnomethodology*, 41–43, 75–102, 212–21. Aspects of this basic phenomenological orientation have also been integrated into symbolic interactionist sociology; e.g., Becker, *Sociological Work*, 312. "One of the ways we know that we are normal human beings is that our perceptual world, on the evidence available to us, seems to be pretty much the same as other people's. We see and hear the same things, make the same kind of sense of them, and where perceptions differ, can explain the difference by a difference in situation or perspective." Early phenomenologists assumed a distinction between the natural attitude of everyday life and the posture of scientific action (see, e.g., Schutz, *Collected Papers*, I, 3–47), while a number of modern sociologists working within that broadly constructed tradition have persuasively shown the natural sciences to embody forms of everyday reasoning (e.g., Lynch, "Schutz and the Sociology of Science"; Garfinkel, Lynch, and Livingstone, "The Work of a Discovering Science"; Lynch, Livingstone, and Garfinkel "Temporal Order in Laboratory Work").

natural attitude is a practical condition for both action and reflection, including such phenomenological reflection as may take the natural attitude as an intellectual object. For some phenomenologists the commonsense realism of the natural attitude is to be treated as "inherent in thought."<sup>81</sup> The very notion of truth as correspondence between the real and a perception or description presupposes the natural attitude.<sup>82</sup> Social interaction is thus predicated upon the adoption of an informal ontological view, while our sense of what things exist in the world is built upon a moral foundation—a moral expectation about intersubjectivity.

The presumption of an independent, external, and communally knowable world is a precondition for communication. The natural attitude is what makes communication possible and what allows communication reliably to be taken as *referring* to the world. Community is, as it were, built into the natural attitude we employ to accomplish collective action. Through what Schutz calls "the idealization of the interchangeability of the standpoints," one takes for granted, and assumes the other does the same, that, were we to change biographical and physical places, we would enjoy the same perceptual access to the world.<sup>83</sup> Through the conversations of everyday life we *show* each other that this is our presumption. Communication is the mutual display of our assumption of the attitude of everyday life; hence our sense of the value of everyday life proceeds from its being held in common.<sup>84</sup> For the phenomenologist the natural attitude that presupposes the existence of an intersubjectively knowable external world is not treated as a decisive proof that such a world exists: through what Husserl called "the phenomenological reduction," or "putting the world in brackets," the natural attitude is made into a central topic of inquiry.<sup>85</sup> How does it act as the foundation of cognitive and moral order? How is it sustained in the face of challenges, and how, in fact, does the natural attitude provide a powerful resource for the artful repair of cognitive and social order?<sup>86</sup>

81. See, e.g., W. Earle, *Objectivity*, 16. For a suggestion that it is, at any rate, inherent in *language*, see, in a different idiom, Quine, "The Scope and Language of Science," in *Ways of Paradox*, 216–17.

82. Schutz, *Collected Papers*, I, 227; Pollner, *Mundane Reason*, 16–18, 22, 126–27.

83. Schutz, *Collected Papers*, I, 12; see also Garfinkel, "Conception of, and Experiments with, 'Trust,'" 212; Heritage, *Garfinkel and Ethnomethodology*, 54–61; Pollner, *Mundane Reason*, 50–51.

84. Mullin, "Phenomenology and Friendship," 31–32.

85. Schutz, *Collected Papers*, I, 104.

86. For linguistic philosophers' orientation to the fundamental presuppositions of conversational acts, see, e.g., Austin, *How to Do Things with Words*, 14–15 (for "felicity conditions"); Searle, *Speech Acts*, esp. ch. 3 (for "sincerity conditions"); Grice, "Logic

The ethnomethodologist Melvin Pollner uses the term "mundane reason" to designate the repertoire of practices by which presumptions about the nature of an objective external world are embedded within practice and inquiry about that world. It is reasoning about the world, self, and others which presupposes the world and its relationship to the observer. It is a set of presuppositions about the subject, the object, and the nature of their relations. Its legitimacy cannot be demonstrated from within mundane inquiry, since it is incorrigibly presupposed "by virtually any form of praxis." Nor, strictly speaking, is mundanity an object, since "it is the work which provides for the possibility of objects in the first place."<sup>87</sup> Even the sociologists who have placed mundane reason at the center of their account of social and cognitive order have been drawn to talk about it in a functional idiom. The commonsense realism of mundane reason is "profoundly functional": "The social world would undoubtedly collapse if the actors simply shrugged their shoulders every time someone came up with a different version of the events going on before their eyes."<sup>88</sup>

The natural attitude embeds the norm that accounts of the world will *not* be significantly discrepant: the world exists, and exists in a certain way; people have competent access to such a world, and their accounts are presumed reliably to report upon it. Nevertheless, everyday actors are wholly familiar with the fact that variation in reports is endemic.<sup>89</sup> The natural attitude is not therein compromised in any way. First, actors within the natural attitude may help themselves to informal theories about perspective and circumstance to account for discrepant reports about a determinate and in-principle-accessible external world. Reports may vary because individuals are differently situated in space and time (e.g., you were not present when the phenomena were on display), because observational conditions vary (e.g., cloud cover obscured your sight of the comet), or because others may be observing from different angles (e.g., a geometrical figure may present different forms depending upon the face at which one looks). One observer or the other may lack a requisite aid to perception (a telescope or one of sufficient quality), may be perceptually compromised

and Conversation," 43–45 (cf. Schiffrin, "Management of Self," 243); see also Lakoff, "Language in Context," 916; Bolinger, "Truth Is a Linguistic Question," 543. And for sociological assimilation, see esp. Goffman, "Felicity's Conditions," 25–26; and idem, *Forms of Talk*, 14–15.

87. Pollner, *Mundane Reason*, 14, 16, 29.

88. Heritage, *Garfinkel and Ethnomethodology*, 213. Chapter 6 below is an extended exploration of mundane reason at work in passages of seventeenth-century science.

89. Compare, for example, Barnes's concise treatment of discrepant late-nineteenth-century accounts of the existence of an intermediate layer of marine fauna: "Problems of Intelligibility and Paradigm Instances," esp. 119–20.



(myopia, cataracts), or may, in extreme cases, be suffering from a delusory or hallucinatory condition. Second, there may be a discrimination between 'the same' perception and varying 'interpretations' of that perception. One may grant that 'something' of a determinate structure was observed but not the thing proposed in another's interpretation. Moreover, the natural attitude acknowledges the possibility that observing may be an expert act. Biology pupils learn from teachers to see through a microscope; we accept that only expert geologists can see the parallel roads of Glen Roy. Everyday actors understand that cognition may be distributed across fields of expertise, and that there is such a thing as "the properly accredited witness."<sup>90</sup> Third, a distinction is available between perception and cognition, on the one hand, and representation and reporting, on the other. As John Heritage says, "discrepancies between accounts may be held to result from the fact that one or the other was 'poorly phrased,' metaphorical, ironic, a joke or a lie. In some cases, specific interests may be invoked as a basis for the proposedly discrepant account."<sup>91</sup>

Far from being threatened by the existence of discrepant accounts of the world, mundane reason contains within itself the resources which can repair or resolve variation and further entrench itself as the necessary set of tools for accomplishing social and cognitive order. In the course of this repair, decisions may be taken about what the world is like such that *these* discrepant reports have been made by *these* people. Michael Lynch's study of observational reports in a modern neurobiological laboratory documents the pervasive use of the three repair mechanisms just noted: individuals may cite perspectival circumstances; they may mobilize the gaps between perceptions, cognitions, and representations; and they may proffer uncertainty stipulations ('it may be,' 'I think') so as to defuse conflict between discrepant accounts. Interestingly, they may also negotiate the properties of the object discrepantly reported upon so as to reach agreement upon a stable object whose properties allow varying accounts that are morally and technically competent: "Speakers often show great cleverness in providing for the object in consistent ways which nonetheless reconcile initially contrary assertions. . . . In such explanations the object is not haphazardly reformulated but is provided with qualities, aspects, or implications which show a sensitivity to what a recipient . . . might agree with."<sup>92</sup> Given varying accounts of the object, individuals interact so as

90. Schutz, *Collected Papers*, I, 11–12, 15. The quoted phrase is from Heritage, *Garfinkel and Ethnomethodology*, 215.

91. Heritage, *Garfinkel and Ethnomethodology*, 214–15. This summary draws extensively on Heritage's chapter on "'World Maintenance' as an Institutionalized Activity."

92. Lynch, *Art and Artifact in Laboratory Science*, 214; cf. Garfinkel, Lynch, and Livingston, "The Work of a Discovering Science," esp. 137–38.

to reach agreement about what the object was all along. If A says that a cell is elongated, and B describes it as circular, their subsequent conversation may, for instance, stabilize upon reference to a cell that is, and always was, oval. The conversation need not, though it may, invoke perspectival differences or distinctions of instrumental access or skill. Knowledge of the world is given its shape as conversation proceeds.<sup>93</sup>

Conversation does not necessarily have to reach consensus, nor does it have to 'split the difference' in accounts, as the price of peace. Lynch describes an interactive setting in which there are strong institutional inducements towards peaceable and innocuous resolutions of discrepant accounts, and in which imputations of technical incompetence or insincerity are strongly interdicted. The 'shop-workers' of a scientific laboratory have, after all, to live with each other. Consider, however, the 'reality disjunctures' depicted in Jeff Coulter's study of interaction between a mental welfare officer (MWO) and a former mental patient, currently living in the community.<sup>94</sup> Coulter's transcript of an exchange between patient and MWO has the former reporting that he is being "knocked up" every night. The patient's claim, as it emerges, is that other tenants at his residence have been making noise with the intention of causing the patient to lose sleep, consequently to lose weight, and, ultimately, to be subject to an unwanted and unpleasant medical regime. The "knocking up" reported by the patient is that set of intentional acts and no other.

The MWO takes upon himself the role of suggesting some other interpretation of an objectively existing state of affairs which gave rise to the patient's obviously unsatisfactory and unsustainable account: perhaps "variations in your sleep pattern," perhaps the sound of pipes changing temperature, but *not* a purposefully malevolent "knocking up" conspiracy. One has here an "interpretive asymmetry," the proposal of divergent, and differently evaluated, accounts of some acknowledged, actor-independent feature of the world. The patient, as it happened, declined the range of permissible interpretations offered to him, all the while expressing his awareness that another type of accounting was potentially available to the MWO: a decision that the patient was suffering from a delusional condition. Indeed, this was

93. For important work along these lines in the social psychology of perception and belief, see, e.g., Gruber, "From Epistemic Subject to Unique Creative Person at Work," 178–81; Tryphon et al., "De l'ombre à l'objet"; Gruber, "The Cooperative Synthesis of Disparate Points of View"; D. Campbell, "Asch's Moral Epistemology for Socially Shared Knowledge."

94. Coulter, "Perceptual Accounts and Interpretive Asymmetries," esp. 385–91; see also Lynch, *Art and Artifact in Laboratory Science*, 211; Heritage, *Garfinkel and Ethnomethodology*, 215–19.

how the exchange ended—with a morally unpalatable version of interpretative agreement about an existent-in-the-world. The MWO continued to credit the patient's perceptual account while disallowing his explanation of that perception. However, another outcome, with even graver consequences for interaction, was possible. Had the MWO concluded that the patient was hallucinatory, he might have denied that a relevant state of affairs in the world (as reported by the patient) did exist and was available for perception. Interpretative asymmetries constitute a rich resource for avoiding ruptures, and, in most social interactions, they are deployed by participants highly motivated to prevent them. Had the MWO enforced a rupture, he would *at the same time* have denied that he and the patient reliably reported upon a world-held-in-common,<sup>95</sup> have concluded that conversation between himself and the patient could not be sustained, and have assisted in labeling the patient a paranoid schizophrenic, that is, someone so damaged as not to be a competent member of the community. Ontology—taken as a sense of what kinds of things exist in the world—is therefore inscribed within even the smallest-scale of moral economies.

#### Trust, Manners, and Mundanity

Much commentary on the role of trust in social order has rightly pointed to its routine, even automatic, quality. How could trust, for instance, be regarded as a device for reducing social complexity if certain outcomes or courses of action could not simply be taken for granted and moved out of the domain of deliberation and inspection? Yet it is also right to point to highly reflective processes by which *decisions* may be taken about whom to trust, in what respects, and in what circumstances. Here the relationship between trust and explicit moral discourse becomes more apparent. Some analysts might want to distinguish, even use a different word for, trust-as-a-routine and *decisions* to grant or withhold trust. I prefer not to, partly because, as I shall note, skepticism can appear as the purposive movement from taking an item for granted to subjecting the same item to inspection and reflection.

Consider some celebrated investigations about the relationship between moral and cognitive order conducted by the ethnomethodologist Harold Garfinkel. These were not designed as rigorous scientific experiments but as “aids to a sluggish imagination,” devices to loosen up reflection about the problem of order considered quite generally. Garfinkel asked some of his graduate students to go away and perform some skepticism with respect to their everyday lives. Put another way,

95. For the MWO this presumed world still existed, though the assumption that it was equally accessible to, and reportable by, the other was withdrawn.

they were requested to act on the assumption that another person was attempting to lie to them about a reported state of affairs. Almost all students elected to try their experiment in distrust with friends or relatives as there was considerable intuitive worry that the situation might become uncontrollable with strangers. Likewise, students reported that convincing displays of distrust were extremely difficult to perform and maintain. One student distrusted a bus driver's assurance about the route that would be taken, while a “housewife” student distrusted her husband's account of why he was home late the night before. Both situations immediately “turned serious”—reaction to even the most straightforward and apparently inconsequential distrust was often hostility of a quite explosive kind—and in the latter case even acknowledgment that the distrust was in the nature of a “sociology experiment” failed to restore preexisting order in the marriage.<sup>96</sup>

For present purposes these so-called “breaching experiments” help to develop three points about the maintenance of everyday order. First, since, as is evident, order is disrupted with such spectacular ease, it arguably follows that everyday order is actively maintained by a complex set of practices that motivated actors use to constitute “interpretative trust.” These practices notably include trusting as a routine, *not* inquiring too far or too much, *not* seeking to go too deeply beyond the ‘face value’ of things, letting the quality of knowledge be ‘sufficient unto the day.’ The experiments artificially rend the fabric of everyday ordered life to show how utterly trust-dependent it is. Second, what is breached in these exercises in distrust is not cognitive order or moral order (as we are accustomed to make the distinction), but *both at once*. It is not the case that the moral order fails and then the cognitive order fails, or the reverse. They fail together, just as they stabilize together. The same distrust that is understood as an act of hostility is an effective denial of the right of another to colonize one's mind, one's sense of what the world is like. Distrusting the bus driver means that buses reliably running from Westwood to Santa Monica may not be part of one's world; distrusting the husband's account of why he arrived home at 2 A.M. means that a ‘husband-working-late-at-the-office’ is not an unequivocal fact about the wife's world while a ‘husband-having-an-affair’ might be; and, similarly, distrusting the biochemist's claims about nucleic acids means that ‘DNA contains cytosine’ may not be a proposition that describes the world-as-it-is. Third, trust appears

96. Garfinkel, *Studies in Ethnomethodology*, 38, 49–53; see also idem, “Conception of, and Experiments with, ‘Trust,’” 217–35. For a critical appreciation of these and related experiments, see Heritage, *Garfinkel and Ethnomethodology*, ch. 4, esp. 97–101. Note that requests for information or justification breed hostility when one is expected to know or accept the matter in question. Presumably, a foreigner's request for reassurance about bus routes would be dealt with differently.

as the cement of social and cognitive order whether it is reposed routinely—taking matters just as they seem to be—or whether it is allocated through more or less formal and reflective exercises of deliberation. Order may be maintained by routine trusting and it may be ruptured by *deciding* that one does not wish to continue in the same moral community as another, or that another has *decided* to terminate conversation with oneself. The distribution of trust is therefore coextensive with the community, and its boundaries are the community's boundaries.

Trust is, quite literally, the great civility. Mundane reason is the space across which trust plays. It provides a set of presuppositions about self, others, and the world which embed trust and which permit both consensus and civil dissensus to occur. A world-known-in-common is built up through acts of trust, and its properties are decided through the civil conversations of trusting individuals. The root of all civility and good manners is therefore the presumption of that basic perceptual competence and sincerity which provide warrants for our conversation as being reliably oriented towards and about the realities upon which we report. The ultimate incivility is the public withdrawal of trust in another's access to the world and in another's moral commitment to speaking truth about it: those who cannot be trusted to report reliably and sincerely about the world may not belong to our community of discourse. It is not just that we do not agree with them; it is that we have withdrawn the possibility of disagreeing with them. The external determinate world is preserved across this great incivility; what is lost is the presumption of a world-known-in-common between the participants to such a rupture. The great civility, therefore, is granting the conditions in which others can colonize our minds and expecting the conditions which allow us to colonize theirs. It is in this sense that a world-known-in-common is part of the moral fabric of ordinary social interaction.

### Truth and Consequences

Phenomenological insistence upon the social character of truth connects with a currently better-known Foucauldian idiom. Naturally, truth is not "outside of power"; it is not "the reward of free spirits," or "the child of protracted solitude." Truth is produced and maintained in what Foucault called "régimes," each with its "general politics" of truth.<sup>97</sup> Foucault too wanted to conceive of truth as a collective way of acting: truth is power in the same way that it is a social institution: "Truth" is . . . a system of ordered procedures for the production, regulation, distribution, circulation and operation of statements. 'Truth' is linked in a circular relation with systems of power

which produce and sustain it, and to effects of power which it induces and which extend it. A 'régime' of truth." The "political question," says Foucault, "is not error, illusion, alienated consciousness or ideology; it is truth itself."<sup>97</sup> "Every point in the exercise of power is at the same time a site where knowledge is formed. And conversely every established piece of knowledge permits and assures the exercise of power."<sup>98</sup> The practices by which we accomplish truth amount to our moral order.

Trust builds social and cognitive order; trust is unimaginable in the absence of such order; yet it also proceeds by way of working knowledge of the state of that order at any time. Whom to trust, what to trust, and in what circumstances? And as we perform the next instance of trust, so do we check, make manifest, instantiate, protect, or modify the understood order on the basis of which we trust. The knowledge involved in trust has, of course, a provisional character and an empirical component. Circumstances can induce us to reflect upon our previous routines, to inspect our stock of knowledge for ways of handling problematic instances. We can find that *this* act of trusting was misplaced and, revising our working knowledge accordingly, the scheme of things upon which we reposed that routine trust can change, with the result that the next similar situation may yield a different result. Nevertheless, such empirical feedback as we receive and act upon can have only a partial character. It is information to be assessed against the large background of knowledge we have on trust and continue to take for granted. We might very loosely say that actors have a working picture of the world, and instances can be judged as confirming or disconfirming only in light of *everything else they know* which bears upon the validity of that picture.

One feature of such a picture is knowledge of the likely consequences of trusting or distrusting. What will be the probable outcomes of expressions of assent or of skepticism? Consideration of such questions is arguably a prominent feature of a reflective mood, but they may also be thought to feature as part of routine behavior. Certainly, pragmatic considerations are important here. For example, another's skepticism about claims which fit into, support, and extend some scientific theory I hold dear will diminish me. And these are presumably the interested grounds upon which scientists rarely check claims that favor their preferred views or techniques, while they sometimes rigorously check or reject claims conflicting with them. Yet pragmatic considerations of this sort scarcely define the map of likely outcomes upon which trust

97. Foucault, "Truth and Power," in idem, *Power/Knowledge*, 131–33; see also idem, "The Order of Discourse," esp. 54–56; and Latour and Woolgar, *Laboratory Life*, 229.

98. Foucault, "Power and Norm," 62.

is reposed or withheld. The working schemes involved in such judgments also include what can be called knowledge of the distribution of *power* in the social world.

### True Knowledge and Free Action

To accept the relations of another is, as I have noted, to give that other the right to furnish our minds and to provide guides for our actions, while to withhold that right is to deny the other's ability to contribute to a world-known-in-common. Such judgments are enormously consequential. To trust is to join with others and to show estimation of their worth; to distrust is to disrupt cooperative relations and to dishonor. To trust people is to perform a moral act, proceeding on the basis of what we know about people, their makeup and probable actions with respect to our decisions. Insofar as knowledge comes to us via other people's relations, taking in that knowledge, rejecting it, or holding judgment in abeyance involves knowledge of *who these people are*. What are their circumstances and characteristics? What, in general and in this case, do those circumstances and characteristics testify about the likely reliability of what they say? What of relevance to credibility assessment do we know about them as individuals and as members of some collectivity? What will probably happen if I assent to this person's narration and dispute that person's? What do I know about the likely behavior of these people, as individuals, as representatives of types of individual, and as members of certain collectivities? Of course, knowledge of people and their natures, individually and collectively, makes up an enormous portion of our culture. The application of that knowledge to specific instances of claim assessment may likewise involve complex and subtle judgments of what characteristics are relevant to the case at hand. There is, in principle, no limit to the knowledge deemed relevant to the giving or withholding of assent to knowledge-claims. Nevertheless, I want to point to one type of knowledge we may have of others which has had a distinctive place in credibility assessments in a wide variety of contexts and which, as I shall argue, was specially attended to and picked out in the culture of early modern England.

That circumstance is *free action* and the characteristics that might reliably be attributed to people enjoying free action. By free action I mean to draw attention to the imputation of unconstrained volition *vis-à-vis* others in a social system. Free actors do, and are regarded as doing, what they judge best, natural, most right, or most pleasing, as they freely judge these actions to be. By contrast, the judgments and behavior of the unfree are seen as being constrained—by circumstances or by the consequences of what free actors do. Barnes has argued that to speak of the powerful agents in society is to speak of

discretionary actors: "Social power is the capacity for action in a society, and hence is predominantly but not wholly identifiable as that which is routinely possible therein. Social power is *possessed* by those with discretion in the direction of social action."<sup>99</sup> Recognition and attribution of free action are at the heart of practical social theory. Indeed, Barnes's theory of power is revisionist only with respect to modern social theory. Much early modern culture put free action at the center of its practice of power and its theorizing about power. Society's free actors were considered to be society's powers. There were circumstances which were understood to make it possible to act freely, and the culture was importantly shaped by efforts to define, discern, and display those circumstances. Thus, free action was one of the materials out of which practical and theoretical political culture was constructed.

Even more fundamentally, understandings of free action figure in much reflection about whether or not a person may safely be trusted as a truth-teller. Persons giving a promise bind themselves to others: their word, as the commonplace has it, becomes their bond. To that extent, trusted persons make some set of their future actions predictable by agreeing to forgo a certain amount of free action. And, because those who trust them may forgo relevant precaution or skepticism, they facilitate the free actions of others. Thus, free action appears as a problem to which trust is a solution. If people did and said just as they liked, without regard for others' interests or how things stood in reality, there could be no secure or, indeed, recognizable social order. As Luhmann says, "You cannot trust chaos": "Freedom is the source of the need for trust."<sup>100</sup> Or, in a nonfunctionalist idiom, the concepts of freedom and trust are codependent: neither makes sense without the other.

Since antiquity, ethical writers were generally agreed that promises offered under duress were void and that lies might legitimately be told in order to secure one's life or the good of society. One's word was one's bond only if one was not bound in giving it. The forgoing of free action was considered effective and reliable only if that course was freely decided upon.<sup>101</sup> In that sense, free action was part of the solution to the unpredictability of behavior and word that free action itself engendered. Free action had to be freely disciplined: "Trust, then, is the generalized expectation that the other will handle his freedom."<sup>102</sup> The identification of that appropriate other is an element of practical social theory: only certain types of people, specially placed in the social

99. Barnes, *Nature of Power*, ch. 3, quoting 58.

100. Luhmann, *Trust and Power*, 41.

101. Among many examples, see Cicero, *Offices*, 15–19; A. Smith, *Theory of Moral Sentiments*, §30–33.

102. Luhmann, *Trust and Power*, 39.

system, can be relied upon practically to resolve the paradox involved in the free forgoing of free action.

The recognition of free action, therefore, is inscribed at the center of the culture which justifies trust, which allows trust to be accomplished and social order to be built and sustained. The free actor is a responsible power. And just as free action is fundamental to social order, so free action figures largely in the construction of systems of knowledge: practical social theory and practical epistemology make use of the same materials. Georg Simmel identified what he took to be the peculiar social circumstances of those capable of taking an "objective" view of the world. The stranger was not an isolated individual or one innocent of the customs and conventions of a particular social order: such a person would be not objective but ignorant. Rather, objectivity was said to be the characteristic attitude of those who could freely come and go, belong to and disengage from a society and its system of knowledge: "it is a particular structure composed of distance and nearness, indifference and involvement." That kind of mobility was visible as free action with respect to some particular set of situated ties and constraints. The "objective individual is bound by no commandments which could prejudice his perception, understanding, and evaluation of the given." For Simmel the social circumstance which permitted this kind of truth to be apprehended and spoken belonged to the "stranger," and, locally, to the European Jew. The stranger was "freer"; he was "not tied down in his action by habit, piety, and precedent." It was the stranger's free action which allowed him to see and say truth. In this way, Simmel participated in the great cultural-historical tradition which assigned truth to disengagement and error or distortion to membership in the polity. Particular social ties pulled seeing and saying out of correspondence with the true state of affairs, while freedom from those ties allowed truth to be looked directly in the face and told to others.<sup>103</sup> The solitary intellectual and the stranger are major actors in both practical social theory and practical epistemology.

This book starts by identifying another sort of supposed free actor in the making of knowledge. Unlike Simmel's stranger or Jew, this free actor was not to be found on the periphery of a social system. Instead, his characteristic setting was right at its center. He was the English gentleman, and this book is largely concerned with the cultural practices which recruited patterns of gentlemanly recognition and con-

103. Simmel, "The Stranger," in idem, *Sociology of Simmel*, 402-08, quoting 405, 407. Karl Mannheim's views on the "*freischwebende Intelligenz*" (the term originated with Alfred Weber) recognizably belong to same cast of mind; see, e.g., Mannheim, *Ideology and Utopia*, 136-46; Ringer, "Origins of Mannheim's Sociology of Knowledge," 63-64; Popper, *The Open Society and Its Enemies*, 400-01, 706 n. 3. For Alexandre Koyré's reflections upon lying and unfreedom, see Forrester, "Lying on the Couch," 153-55.

versation for the enterprise of making and maintaining scientific knowledge. How was the English gentleman placed in social and economic culture, and what was the shape of the culture which identified his circumstances, his powers, and his virtues? How did that culture talk about, explain, and enjoin a relationship between gentility and veracity?