Adam Smith and the History of the Invisible Hand

Peter Harrison

Few phrases in the history of ideas have attracted as much attention as Smith's "invisible hand," and there is a large body of secondary literature devoted to it. In spite of this there is no consensus on what Smith might have intended when he used this expression, or on what role it played in Smith's thought. Estimates of its significance range from the laudatory—"one of the great ideas of history," to the dismissive—"an ironic joke."[1] Commentators are also divided on whether Smith's "invisible hand" has teleological or providential connotations, or whether it is simply a rhetorical device. John Kenneth Galbraith declared that we do a grave disservice to Smith if we insist on understanding his invisible hand as a kind of "spiritual force."[2] Spenser J. Pack maintained that the invisible hand was "a rhetorical device which Smith made up, and knew he made up" and certainly "not

[1] J. Tobin, "The Invisible Hand in Modern Microeconomics," in *Adam Smith's Legacy: His Place in the Development of Modern Economics*, ed. M. Fry (London: Routledge, 1997), 119–32, 120; Emma Rothschild, *Economic Sentiments: Adam Smith, Condorcet, and the Enlightenment* (Cambridge, Mass.: Harvard University Press, 2001), 138. For summaries of varying interpretations see Rothschild, *Economic Sentiments*, 116f.; Lisa Hill, "The Hidden Theology of Adam Smith," *European Journal of the History of Economic Thought* 8 (2001): 1–29; David A. Martin, "Economics as Ideology: On Making 'The Invisible Hand' Invisible," *Review of Social Economy*, 48 (1990): 272–87.

[2] J. K. Galbraith, *The Anatomy of Power* (Boston: Houghton-Mifflin, 1983), 112; *Economics in Perspective* (Boston: Houghton-Mifflin, 1987), 64.

a theological underpinning for Smith's social and/or economic theory."[3] Others have adopted the opposite view. Jacob Viner contended that Smith's economic theory becomes unintelligible if "the invisible hand" is evacuated of its theological significance.[4] For David A. Martin, Smith's use of the phrase pointed to the foundational role played by divine wisdom in Smith's thought, while for Andy Denis, "the invisible hand concept in Smith was entirely and unambiguously theological."[5]

Surprisingly, given this situation, a systematic study of the uses of the expression before Smith has yet to be made.[6] Indeed, it is not unusual to find claims that Smith invented the expression himself, or that it was primarily owing to his influence that the phrase first became widespread.[7] Those who have made perfunctory efforts at a history of the phrase generally point to a few scattered literary references with a view either to judging them irrelevant to Smith's *oeuvre*, or to suggesting that Smith's (admittedly meagre) uses of the phrase are empty metaphors. This paper seeks to remedy this deficiency, offering a history of "the invisible hand" with a particular focus on the seventeenth and early eighteenth centuries. What clearly emerges from this survey is that the concept was relatively common by the time Smith came to use it. Moreover, while "invisible hand" was used in a variety of contexts, by far the most common involved reference to God's

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[3] Spenser J. Pack, "Smith's Invisible/Visible Hand/Chain/Chaos," in *Joseph A. Schumpeter: Historian of Economics: Perspectives in the History of Economic Thought*, ed. Laurence S. Moss (New York: Routledge, 1996), 189. Elsewhere Pack contends that ". . . the invisible hand was self-consciously made up by Smith." "Theological (and hence Economic) Implications of Adam Smith's 'Principles which Lead and Direct Philosophical Enquiries,'" *History of Political Economy* 27 (1995): 289–307, 290. See also Irving Kristol, "Rationalism in Economics," *The Public Interest* (Special Issue, 1980): 16; William Grampp, "What did Smith mean by the Invisible Hand?" *The Journal of Political Economy* 108 (2000): 441–65, 449.

[4] Jacob Viner, *The Role of Providence in the Social Order* (Philadelphia: American Philosophical Society, 1972), 81f.

[5] Martin, "Economics as Ideology"; Andy Denis, "The Invisible Hand of God in Adam Smith," in *Research in the History of Economic Thought: A Research Annual* 23A (2005): 1–33. For similar assessments see Charles Clark, *Economic Theory and Natural Philosophy* (Hants: Edward Elgar, 1992), 97; Patricia Werhane, *Adam Smith and his Legacy for Modern Capitalism* (Oxford: Oxford University Press, 1991), 102; Jerry Evensky, "Ethics and the Invisible Hand," *Journal of Economic Perspectives* 7 (1993): 197–205, 200.

[6] But see Rothschild *Economic Sentiments*, 116–21.

[7] See, e.g., Pack, "Smith's Invisible/Visible Hand/Chain/Chaos," 189; Andrew Levine, *The American Ideology: A Critique* (London: Routledge, 2004), 59. This is also a commonplace of economics textbooks. See Karl E. Case and Ray C. Fair, *Principles of Economics* (New York: Pearson, 2006), 72; Jon A. Hooks, *Economics: Fundamentals for Financial Service Providers* (Washington: Kogan Page, 2003), 64.

oversight of human history and to his control of the operations of nature. Almost certainly, then, when readers encountered the phrase in Smith, they would have understood it as referring to God's unseen agency in political economy. Whether Smith was himself committed to such a view is more difficult to determine, but the history of the expression and the contexts in which it appears in Smith's writings offer some support for providentialist readings.

HIDDEN AND INVISIBLE HANDS

The expression "invisible hand" was not commonly used before the seventeenth century. It does not occur in classical literature (although some have suggested that the phrase may be found in Ovid).[8] Neither does it appear in the Hebrew Bible or the New Testament.[9] The earliest reference that I have found occurs in a Greek liturgy which invokes God's "invisible right hand which is full of blessing."[10] The liturgy was used by the Alexandrian Church and its origins date back (probably) to the second century. How-

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[8] The Loeb edition of the *Metamorphoses* offers this rendition: "there in his vitals twisted and plied his invisible hand [*Caecamque in viscera movit versavitque manum vulnusque in vulnere fecit*]." Ovid, *Metamorphoses* XII. 492–94, trans. Frank Justus Miller, 4 vols. (Cambridge, Mass.: Harvard University Press, 1958–60), 4: 215. However, *caecam manum* suggests rather a "hidden" or "unseen" hand, as does the context—Caeneus has stabbed a centaur and his sword hand is buried in the vitals of the creature. Smith owned the 1661–62 Leyden Latin edition of Ovid's Works. See *Adam Smith's Library: A Catalogue,* ed. Hiroshi Mizuta (Oxford: Clarendon Press, 2000), 183, item 1237. Rothschild nonetheless thinks that this passage may have influenced Smith's conception: Rothschild, *Economic Sentiments*, 118. Horace, *Odes* 3.3.6, makes reference to the "thundering hand of Jupiter."

[9] Daniel 2:34 tells of a rock cut by an unseen hand, the Hebrew being usually translated as "without hands" or "without human hands."

[10] The Latin translation reads: "*invisibilem dexteram tuam plenam benedictionum.*" "Divina Liturgia Sancti Apostoli et Evangelistae Marci, Discipuli sancti Petri," in *Liturgiarum Orientalium Collectio*, 2nd ed., tom, 1, ed. Eusèbe Renaudot (Francofurti ad Moenum, Londini, 1847), 120–48, 147. Cf. "The Divine Liturgy of the Holy Apostle and Evangelist Mark," XXII, *Ante-Nicene Fathers*, 10 vols., ed. Alexander Roberts and James Donaldson (Edinburgh: T. & T. Clark, 1989), 7: 560. Another passage from Eusebius is rendered this way in a nineteenth-century translation: "But he who is invisible avenged himself with an invisible hand." *The Oration of Eusebius*, Ch. xvii, in *Nicene and Post-Nicene Fathers, second series*, 1: 608. Comparison with the original Greek suggests: "But the invisible one avenged himself in an invisible manner." See E. Zimmermann (ed.), *Eusebii Pamphili Ecclesiasticae Historiae ejusdem De Vita Constantin . . . Graece et Latine* (Francofurti ad Moenum, 1822). I am grateful to Ignacio Silva for drawing the Greek version to my attention.

ever, the expression is relatively rare in subsequent patristic and medieval writings. In one of his Old Testament commentaries, Alexandrian Church father Origen (185–254 CE) attributed the Israelites' defeat of the Amalekites, recorded in Exodus 17, to the agency of God's *hidden* hand.[11] Some later sources made reference to the work of a "hidden" or "invisible" hand of God in restoring individuals to health. Augustine of Hippo (354–430 CE) thus spoke of the hidden hand of God which heals and makes whole.[12] A medieval source refers similarly to a wound being healed by the touch of an invisible hand.[13] French Benedictine Petrus Cellensis (1115–83 CE) alluded to the action of God's "invisible hand" in the formation of human souls *in utero*.[14] There are a few other references to hidden, secret, or invisible hands—some human, some supernatural—but these do not converge on a specific conception.

From the seventeenth century onwards the term became increasingly frequent. In sermons, devotional writings, biblical commentaries, and literary works, it appeared in a variety of contexts. Demonic and angelic activities could be described in terms of the work of an invisible hand. The sinister work of the angel which visited death upon the first-born of the Egyptians was thus attributed to an invisible hand.[15] Some sermonisers were to speak more generally of the invisible hand of death, which eventually touched us all.[16] The invisible hand of God was also detected in the course of history, restraining the wicked or preserving and prospering the Christian Church.[17] Invisible and hidden hands also appeared, so to speak,

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[11] "Plainly understand from this that the Amalec should be regarded as having been defeated by a 'hidden hand' (this is, invisible). . . ." (*Intellige ex hoc evidentius, qui debeat intelligi Amalec, quem "manu occulta," hoc est invisibili, . . .*), Origen, *In Numeros homiliae*, hom. 19, par. 1, p. 178, linea: 27, in *Library of Latin Texts, Series A*, http://clt.brepolis.net/llta/Default.aspx. The biblical reference is to Exodus 17:8–15. This is Rufinus's Latin translation of Origen's Greek.

[12] ". . . *occulta dei manu medicante sanabuntur.* . . ." Augustinus Hipponensis, *Contra mendacium*, cap.: 6, par.: 11, pag.: 483, linea: 14, in *Library of Latin Texts, Series A*.

[13] ". . . *ad cujus tactum subiro vulnus apertum est, & marcidum sanguinem, [tactu manus invisibilis sanatur].*" *Vita, Auctore Vito Cortonensi coævo, Ordinis Minorum. Ex originali Ms. in conventu S. Crucis ejusdem Ordinis Florentiae adservato*, V. 49, in *Acta Sanctorum*, http://acta.chadwyck.co.uk/.

[14] ". . . *quia anima, quae non ex uiri et feminae ardore concupiscibili seminatur, sed manu inuisibilis operationis a Creatore in membris iam utcumque formatis.* . . ." Petrus Cellensis, *Commentaria in Ruth*, commentarium: 2, linea: 326, in *Library of Latin Texts, Series A*. These are possibly references to Job 31:15 and Isaiah 44:24.

[15] John King, *A sermon preached in Oxon: The 5. of November. 1607* (Oxford, 1607), 14.

[16] Hugh Blair, *Sermons*, 4 vols. (3rd ed., London: A. Strahan, 1794), 4: 44f.

[17] John Flavel, *Divine conduct, or, The mysterie of Providence* (London, 1693), 6; Mat-

in literary works and with a range of associations. Best known, perhaps, are the lines uttered by Macbeth:

> Come, seeling night,
> Scarf up the tender eye of pitiful day;
> And with thy bloody and invisible hand
> Cancel and tear to pieces that great bond
> Which keeps me pale![18]

This was an atypical reference, as it turns out, for here the invisible hand does not describe any occult agent. Rather Macbeth was simply calling upon the night to cloak his bloody deeds. This passage has been suggested as one possible source of Smith's use of the phrase, implausibly in my view, although it is likely that Smith was aware it.[19]

More importantly for our purposes, during the early modern period, in addition to increasing frequency of occurrence, we witness the emergence of a more distinct pattern of use or, more correctly perhaps, of two related concepts of the operation of "the invisible hand." Most commonly the invisible hand was used to refer to the manner in which God exercised providential control over the course of history by subtly influencing human actions in order to bring about his ends. These ends are thus accomplished in spite of the intentions of human actors and without their knowledge. The second pattern of usage also refers to God's providential action, but in the context of his superintendence of the natural world. Thus God's invisible hand was glimpsed in the contrivances of the creatures and in the wisdom and foresight evidenced by the laws of nature, which again promote his ends. These two conceptions between them represent the most predominant uses of the expression in the seventeenth and eighteenth centuries and hence the most relevant background for Smith's uses of the expression.

HISTORY, HUMAN AFFAIRS, AND THE INVISIBLE HAND

Sermons and biblical commentaries provide one of the more important contexts in which reference was made to the activity of God's invisible hand in history. Following Origen, Henry Hammond (1605–60) attributed Israel's

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thew Henry, *An Exposition of all the books of the Old Testament*, 6 vols. (London 1721–25), 2: 185, 392; John Scott, *The Christian life*, Part II (London, 1687), 480.

[18] *Macbeth*, 3.2.46–50.

[19] Rothschild offers additional literary examples, *Economic Sentiments*, 118–21.

victory over their traditional foes, the Amelikites, to the work of God's invisible hand.[20] The fluctuating fortunes of Joseph, and his eventual ascent from lowly prisoner to ruler of Egypt (Genesis 41), was also associated with the work of God's invisible hand.[21] Of various Old Testament passages cited in this context the most significant was the prophecy of Daniel relating to the rise and fall of the "four kingdoms." In Nebuchadnezzar's dream, related in Daniel 2, an unseen hand cuts a rock from the mountain and uses it to destroy a great image which has a head of gold, breast and arms of silver, a belly of brass, legs of iron, and feet of iron mixed with clay. Daniel explained that the dream refers to four kingdoms of the world which will successively rise and fall, eventually to be replaced by a new reign of God. Many early modern commentators were to interpret this passage as pointing to God's hidden activity in the course of history, and some used the expression "invisible hand" to describe that activity.[22] An additional reason for the prevalence of the phrase in commentary on these passages is that the unseen hand of Daniel 2 was at times conflated with the hand that writes on the wall at Belshazzar's feast in Daniel 5, although the latter hand was patently visible.[23]

Isaac Barrow (1630–77), the first Lucasian Professor of Mathematics at Cambridge and a keen biblical exegete, glossed the text in this way, suggesting that during particularly dark periods of human history, when life has seemingly become intolerable, there will often be a dramatic reversal of fortunes, which he describes as being brought about by "an invisible hand."[24] Such readings were in keeping with the apocalyptic theme of the book of Daniel which taught that, in spite of the apparent persistence of

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[20] Henry Hammond, *A paraphrase and annotations upon the books of the Psalms* (London, 1659), 501.

[21] Robert South, *Sermons preached upon several occasions*, 6 vols. (London, 1737), 2: 77; John Wesley, *A Christian Library*, 50 vols. (Bristol, 1749–55), 43: 124.

[22] See, e.g., Francis Atterbury, *Fourteen sermons preach'd on several occasions* (London: Jonah Bowyer, 1708), 252; John Tillotson, *Sermons on several subjects and occasions*, 12 vols. (London: C. Hitch and L. Hawes, 1757), 5: 292; Thomas Robinson, *Scripture characters*, 4 vols. (4th ed., London: J. Mathews, 1800), 2: 408; Richard Graves, *A sermon on the deliverance of this kingdom* (3rd ed., Dublin: W. Watson, 1797), 10; Job Orton, *A short and plain exposition of the Old Testament*, 6 vols. (Shrewsbury: J. and W. Eddowes, 1788–91), 6: 247. Cf. Louis-Pierre Anquetil, *A summary of universal history*, 9 vols. (London: G.G. and J. Robinson, 1800), 1: 212.

[23] See, e.g., Francis Blyth, *Sermons for every Sunday in the year* (Dublin: B. Corcoran, 1763), 109; William Hutchinson, *The history and antiquities of the County Palatine, of Durham*, 3 vols. (Newcastle: S. Hodgson, 1785–94), 1: 429.

[24] Isaac Barrow, *The works of the learned Isaac Barrow*, 4 vols. (3rd ed., London: James Round, 1716), 2: 104.

evil in the world, eventually the time would come when good would triumph and the reign of God would be reinstituted. At a more general level, Daniel's prophecies concerned the rise and fall of the "four monarchies" mentioned previously—the Babylonians, Medes and Persians, the Greeks, the Romans—which correspond to the four parts of the idol in Nebuchadnezzar's dream. The broader application of this narrative was that the waxing and waning of earthly kingdoms were ultimately directed by God's invisible hand. As the Calvinist clergyman Nathaniel Stephens (1606/7–78) wrote, it was the "secret and invisible hand of the Lord that was the cause of the declining of the Power of the Persians in the East, and the rising of the Graecian in the West."[25]

The mechanism by which God accomplished his ends in the course of history was usually understood in terms of his capacity to exert a subtle influence on human decision-making. Religious writer and controversialist William Sherlock (1639/40–1707), commenting on the fulfillment of Daniel's prophecies, observed that God works through his invisible hand to "influence the minds of Men, and govern their thoughts, and counsels, and passions, without an audible Voice from Heaven."[26] This influence was not regarded as miraculous in any strict sense, for it was an ongoing activity which entailed no obvious breach of the laws of nature. Thomas Taylor (1669–1735), the first English translator of Nicholas Malebranche, thus suggested that God "raises and depresses Nations by such easie steps, and cadencies, that it is extreamly difficult to discover any break or interruption in the whole series of second causes." As Taylor went on to explain, the true cause is God's "invisible hand," by which he "influences the Thoughts, Desires, and Passions of man's Mind, in such a Manner as is most proper to facilitate, and carry on the Work he intends." God, Taylor concluded, manages the affairs of the world by exciting such passions "as have a Natural tendency towards promoting his designs for the welfare and happiness of the World."[27] The *invisible* quality of this divine work was also under-

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[25] Nathaniel Stephens, *A plain and easie calculation of the name, mark, and number of the name of the beast* (London, 1656), 146.

[26] William Sherlock, *A practical discourse concerning a future judgment* (London, 1692), 63. Cf. Charles Rollin, *The ancient history of the Egyptians, Carthaginians, Assyrians, Babylonians, Medes and Persians, Macedonians, and Grecians*, 12 vols. (3rd ed., London: J. and P. Knapton, 1749), 1: vii.

[27] Thomas Taylor, *A sermon preach'd in the parish church of Burcester* (London, 1697), 4f., 6. For further examples see Henry Stebbing, *Sermons on practical Christianity*, 2 vols. (London, 1759–60), 2: 365; John Norris, *Practical discourses upon several divine subjects* (London, 1691), 221; William Sherlock, *A discourse concerning the divine providence* (London, 1694), 64.

stood to mean that its operations were ultimately beyond human ken. God's invisible hand, declared the Oxford Divine Robert South, works "by strange, secret, and unaccountable Conjunctions."[28] George Adams similarly confessed that how the invisible hand works to communicate impulses and thoughts "must remain inexplicable difficulties to us."[29]

These understandings of the operation of the invisible hand included both God's general and special providence as they were traditionally understood. General providence described God's lawful provision for the creatures in general, including his control of the course of history. God's special providence was understood as applying to particular individuals. John Calvin had taken pains to develop an idea of special providence in opposition to what he regarded as the deficient Stoic and Epicurean accounts of the gods' relation to the world.[30] Calvin also contended that while many events take place which are neither intended nor foreseen by human actors, such events are not to be attributed to chance but, again, to God's special providence. This view—that in history there were no genuine contingencies—was a recurring theme in seventeenth- and eighteenth-century allusions to the invisible hand. Thomas Burroughes expressed it this way:

> Though many things seem to come to pass by meer chance, it doth but seem so, for there is no such thing. There is a secret unseen hand of providence, that ordereth every motion and event. . . . For still in the most casual events, and greatest contingencies, there is an invisible hand of the infinitely-wise God, that linketh one thing to another, though in such a way, that we know not, nor that is fit we should know how.[31]

In short, the idea that God could accomplish his purposes, in spite of the intentions of human agents, was a standard way of deploying the notion of the invisible hand throughout the seventeenth and eighteenth centuries.[32]

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[28] Robert South, *Twelve sermons preached upon several occasions* (London, 1694), 104.

[29] George Adams, *An exposition of some articles of religion* (London: J. Clarke, 1752), 25f.

[30] John Calvin, *Institutes of the Christian Religion*, I.xvi, 2 vols., tr. Henry Beveridge (London: Clark, 1962), 1: 171–81. See also Charles Partee, *Calvin and Classical Philosophy*, 95–147; W. J. Torrence Kirby, "Stoic *and* Epicurean? Calvin's Dialectical Account of Providence in the *Institutes*," *International Journal of Systematic Theology* 5 (2003): 309–22.

[31] Thomas Burroughes, *A soverain remedy for all kinds of grief* (London, 1662), 6–7. See also Richard Price, *Four dissertations* (London, 1767), 16.

[32] See, e.g., Francis Atterbury, *Bishop Atterbury's legacy to all true Englishmen* (2nd ed., London: E. Curll, 1733), 50, and Atterbury's *Sermons and discourses on several subjects and occasions,* 2 vols. (London: Jonah Bowyer, 1723), 1: 249.

Some occurrences of the phrase "invisible hand," particularly in the context of God's special providence, look very much like instances of the so-called "Protestant ethic" and its accompanying motivations. God was thought to make prosperous those who acted industriously in their allotted vocation and secretly punish the wicked within the compass of the present life. The prominent puritan divine, William Bates (1625–99), was explicit on this point, observing that God dispenses his favor to the merciful, "sometimes by a secret Blessing dispensed by an invisible Hand, and sometimes in succeeding their diligent Endeavours in their Callings."[33] This is not the occasion for a discussion of the merits of the Weber thesis, and its bearing on these early ideas of the invisible hand. However, it is worth noting in passing that Calvinist conceptions of vocation, election, and providence form an important part of the background of these particular uses of the expression. To take a single example, Isaac Barrow, who as we have seen, spoke of the operation of God's invisible hand in the events of history, also argued that self-love had been implanted in us by God, and that its exercise was ultimately beneficial to all.[34] In a sermon entitled "On Industry in Our Particular Calling," he advocated the exercise of industry as a duty owed to self.[35] This combination of a positive view of self-love (developed partly in opposition to the ideas of Bernard Mandeville), a providentialist view of history, and an emphasis on the importance of industry and vocation, are suggestive of the importance of Calvinism in promoting the ideas that underlie this particular conception of the invisible hand.

Given this, it is not surprising that we should encounter "the invisible hand" in the 1762 Glasgow edition of Calvin's *Institutes of the Christian Religion*. This edition was a version of Thomas Norton's translation of the *Institutes* which first appeared in 1561. Norton was the son-in-law of English reformer Thomas Cranmer, and apart from an abridged version published in 1586 his was the only English version available until John Allen's 1813 translation. The relevant passage reads as follows:

> But those things which appear to us to happen by chance, faith will acknowledge to have been owing to a secret impulse of God.

[33] William Bates, *Spiritual perfection, unfolded and enforced from 2 Cor. VII* (London, 1699), 56. Cf. Robert South, *Twelve sermons*, 104; Anthony Horneck, *Several sermons upon the fifth of St. Matthew* (London, 1698), 456.

[34] Barrow, "Of Self-Love in General," *Works*, 3: 230, 231. On changing conceptions of self-love, see Pierre Force, *Self Interest before Adam Smith* (Cambridge: Cambridge University Press, 2003).

[35] Isaac Barrow, *Works of the Learned Isaac Barrow*, 3 vols. (5th ed., London: J. Tillotson, 1741), 3: 182.

> I grant there doth not always appear the like reason, but doubtless we ought to believe, that whatsoever changes of things are seen in the world, are brought about by the direction and influence of God's invisible hand.[36]

The context in which these words appear is an extended discussion of divine providence. Calvin declared that by God's providence, "not only heaven and earth and other creatures without life, but also the purposes and inclinations of men are so governed by his providence that they are directly carried to the end that it appointeth." He went on to cite Augustine to the effect that "even the same that is commonly called *fortune* is also ruled by secret order."[37] All of this is consistent with the usages detailed above.

It is tempting to conclude that the 1561 English edition of Calvin's *Institutes* is the likely original source for all of these uses of the phrase, and that its appearance in Calvin accounts for the popularity of its deployment in these providential contexts. In fact, curiously, something like the reverse seems to have been the case, for all of the preceding editions of Norton's translation spoke not of an invisible hand, but rather of "the secret sturring of the hand of God."[38] This was a more literal rendition of Calvin's original Latin, and Calvin's own French version said something similar.[39] It seems that those charged with the production of the Glasgow edition of 1762 actually changed Norton's translation, so that the discussion of providence found in the 1762 edition included the phrase "invisible hand." The most likely explanation for this is that the phrase had acquired a stable technical meaning that was consistent with the tenor of Calvin's discussion of providence. This emboldened the unknown interpolators to insert this phrase into the text of Calvin. In their eyes it was the contemporary expression which best captured his meaning, and which would convey it most straightforwardly to eighteenth-century readers.

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[36] John Calvin, *The Institution of the Christian religion*, I.xvi.9, tr. Thomas Norton (Glasgow: Alexander Irvine, 1762), bk. 1, 84.

[37] *Ibid.*, 83.

[38] John Calvin, *The Institution of Christian religion* (London, 1561). This is true for the nine or so editions up to and including the 1634 version. The 1762 edition appeared next. "Invisible hand" does not appear in the abridged translations by Christopher Fetherstone (1585) or H. Holland (1596).

[39] The Latin reads: "*ex secreta manus Dei agitatione prodire.*" *Institutio christianae religionis* (Londini, 1576), 85. The French edition speaks of the "secret movement of the hand of God [mouvement secret de la main de Dieu]." *Institution de la religion chrétienne par Jean Calvin* (Geneva: E. Beroud, 1888), 96.

In sum, the most probable early modern sources of the expression "invisible hand" were exegetical conventions relating to the mysterious hand referred to in Daniel 2, which was seen to control the destinies of early kingdoms and powers. This exegetical commonplace was reinforced by Calvinist conceptions of providence, according to which God made general provisions for the welfare of his creatures and at the same time worked in secret ways to shape the course of history. "Invisible hand" thus became a shorthand expression for the means by which God exerted control over human affairs in spite of the apparent contingencies of history and the free choices of human agents.

THE INVISIBLE HAND AND THE NATURAL WORLD

While the predominant use of "invisible hand" related to human affairs, there was another important context—that of natural philosophy and natural theology. Here the expression was used to refer variously to God's role as a source of motion, to his instantiation of laws of nature which produced particular ends, and to his design of certain features of the natural world. In some respects these usages were consistent with a long tradition of design arguments. According to the fifth of Thomas Aquinas's "five ways": "We see that things which lack intelligence, such as natural bodies, act for an end, and this is evident from their acting always, or nearly always, in the same way, so as to obtain the best result. Hence it is plain that not fortuitously, but designedly, do they achieve their end."[40]

Here, as in the "invisible hand" passages set out above, emphasis is placed on outcomes that are not directly intended by the relevant agents. While God had been allocated various roles in Aristotelian natural philosophy (to which Thomas had to some extent accommodated Christian theology), the mechanical philosophy of the seventeenth century made different, and arguably more taxing, demands on God. For Aristotle, natural things, by definition, had within them an internal source of change and motion. This is what distinguished them from artifacts.[41] The Aristotelian world was like a self-organized living creature. Moreover, Aristotle had considered this world to be eternal, and hence uncreated. In the new philosophy, the whole of nature came to be regarded as a divine artifact, a machine

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[40] Thomas Aquinas, *Summa theologiae* 1a. 2, 3, tr. English Dominican Fathers, 5 vols. (Notre Dame: Christian Classics, 1948), 1: 14.
[41] Aristotle, *Physics*, 2.1, 192b 13.

made up of inert corpuscles that required an external source of change and motion. For most mechanical philosophers that external source of motion was the invisible God. The existence of the machine of nature also implied a designer, and the invisible hand of God was thus thought to be evident in both the laws governing the world and also in the apparent contrivances of the creatures that inhabited it.

One distinctive feature of this new approach to nature was the idea that there were mathematical laws of nature, instituted by God. Previously, much of the causal activity in the world had been attributed to the active powers of nature itself, and God was understood as lending his concurrence to these natural operations. For early modern pioneers of the modern concept of laws of nature, causal activity was properly attributed to God alone. Thus, when Descartes first articulated his three "laws of nature," he wrote that "God imparted various motions to the parts of matter when he first created them, and he now preserves all this matter in the same way, and by the same process by which he originally created it."[42] The laws of nature, on this understanding, required God's ongoing activity. We find a similar conception in Isaac Newton, for whom "gravity must be caused by an agent acting constantly according to certain laws."[43] Many commentators have assumed that for Newton God was the direct cause of gravity, and prominent Newtonians were explicit on this point. Richard Bentley, whom Newton proposed as the first Boyle Lecturer, announced in those lectures that gravity was "the immediate *fiat* and finger of God, and the execution of divine law."[44] Newton's successor in the Lucasian Chair, William Whiston, declared that God exercises "a continual Providence" over the world, and "doth interpose his general, immechanical, immediate *Power*, which we call the *Power of Gravity*."[45] More generally, all of the law-like activity of nature was regarded as a direct consequence of divine agency. As the Newtonian philosopher and theologian Samuel Clarke expressed it: "the *Course of Nature*, cannot possibly be any thing else, but the *Arbitrary Will and pleasure of God* exerting itself and acting upon Matter continually."[46]

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[42] René Descartes, *Principles of Philosophy*, §61, in *The Philosophical Writings of Descartes*, 2 vols., tr. John Cottingham, Robert Stoothoff, and Dugald Murdoch (Cambridge: Cambridge University Press, 1984), 1: 240.

[43] Newton to Bentley, 25 February 1692, in *The Correspondence of Sir Isaac Newton*, 7 vols., ed. H. W. Turnbull (Cambridge: Cambridge University Press, 1959–77), 4: 438.

[44] Richard Bentley, *The Works of Richard Bentley, D.D.*, ed. Alexander Dyce (London: Macpherson, 1838), 3: 75.

[45] William Whiston, *Astronomical Principles of Religion* (London, 1725), 111.

[46] Samuel Clarke, *The Evidences of natural and revealed religion*, in *The Works of Samuel Clarke, D.D.*, 2 vols. (London: J. and P. Knapton, 1738), 2: 698.

The new mechanical philosophy and the idea of laws of nature as divine ordinances thus provided another important context for the operation of the invisible hand. Bishop Francis Atterbury (1663–1732), sometime Dean of Christ Church, Oxford, seized upon this mechanical analogy to speak of "that invisible Hand, which wields the vast Machine, and directs all its Springs and Motions."[47] This phrase seems to have done the rounds in Oxford sermons: it was used verbatim in a sermon by Digby Cotes in the University Church, and as we saw earlier, Cotes's contemporary, Oxford Orator Robert South (1634–1716) also spoke in his sermons of the "invisible hand." God was also imagined to administer the specific laws of nature which governed their motions. The laws of nature, then, were also understood as exemplifying the operations of an invisible hand. William Law, in the classic *A Serious Call to a Devout and Holy Life* (1729), spoke accordingly of "that invisible hand which gives laws to all motions, and overrules all events to ends suitable to the highest wisdom and goodness."[48]

Some works of natural theology which develop this theme play on the visible/invisible distinction as set out in Romans 1:18–20, the *locus classicus* for natural theology, where reference is made to the invisible attributes of God being made known through the visible things that he had made. The work *Natural Theology* (1674), written by independent minister Matthew Barker, provides a typical example. Taking Romans 1:20 as his text, Barker contended that laws of the physical world and the instincts of the animate creation all pointed to the existence of an invisible hand at work in the operations of nature:

> If we yield these things are done by *Nature,* and *natural Instincts*; yet still we must reply, Whence had *Nature* these several *instincts*; and if it acts and moves by a Law, who put this *Law* first into it, but He that made all things in *Wisdom,* and hath left the prints and *footsteps* of it in the several works of his hand. So Nature could never produce in so great a *constancy* such admirable *effects,* if it was not guided by some invisible hand.[49]

Again it is the contrivance of the laws of nature and the instincts of the creatures which indicated the presence of an invisible hand.

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[47] Atterbury, *Sermons and discourses*, 1: 249.
[48] William Law, *A Serious Call to a Devout and Holy Life* (London: 1729), 444f.
[49] Matthew Barker, *Natural Theology* (London, 1674), 29. See also Alexander Monro, *Sermons preached upon several occasions* (London, 1691), 6; Simon Berington, *Dissertations on the Mosaical creation* (London, 1750), 386.

These applications of the invisible hand to nature's operations were echoed in influential Continental writings. The French historian and pedagogue Charles Rollin (1661–1741) invoked the invisible hand in this way. In a discussion of "physics" (that is, natural philosophy) in his *Traité des études* (1726–32), he noted that observation of the "order, symmetry and proportion that prevails through the whole and of every part . . . thereby leads us to the invisible hand and understanding, by which the whole is conducted."[50] Rollin's works saw a number of English editions, and were used in British universities throughout the eighteenth century. Significantly, his conception of the discipline of rhetoric seems to have influenced Smith.[51] Another example of this kind of use, almost contemporary with Smith's *Theory of Moral Sentiments* (1759), came from the Swiss naturalist Charles Bonnet (1720–93). Smith knew Bonnet personally, and owned a copy of his *Contemplation de la nature* (1764–65), a work which appeared after the publication of the first edition of *Theory of Moral Sentiments* but before *The Wealth of Nations*.[52] In that work, Bonnet referred to the manner in which divine wisdom had devised the oeconomy of living creatures, and of the way animals were directed to various ends by an invisible hand ("une main invisible").[53] Bonnet could not have been the source of Smith's usage in the *Moral Sentiments*, but it would not be unreasonable to conclude that both writers used the phrase in a similar way. Given what we know of Bonnet's religious commitments, moreover, it is implausible to suggest that he used the expression in an ironic way.

Common to applications of "invisible hand" to human affairs and the natural realm was the idea of a teleology that was the product of neither the motions of inanimate nature nor the conscious acts of human agents. Human agents, of course, are capable (in principle at least) of acting intelligently, but notoriously the ends towards which they act are often determined by their own self-interest. When human behavior collectively results in ends that are neither intended nor foreseen by the individual actors, then it becomes possible to apply the principle of the invisible hand to the operations of both nature and human society. Hugh Binning (1627–53), who

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[50] Charles Rollin, *The method of teaching and studying the belles letters*, 4 vols. (London: A. Bettesworth, 1734), 4: 219.
[51] Jill Marie Bradbury, "New Science and the 'New Species of Writing': Eighteenth-Century Prose Genres," *Eighteenth Century Life* 27 (2003): 28–51.
[52] Mizuta (ed.), *Adam Smith's Library*, 30, item 188.
[53] Charles Bonnet, *The contemplation of nature*, 2 vols. (London: T. Longman, 1766), 2:208. Cf. *Contemplation de la nature* in *Oeuvres* (Amsterdam, 1764), 4: 443. See also Force, *Self-Interest before Adam Smith*, 73n106.

became regent of philosophy at the University of Glasgow at the improbable age of eighteen, linked these two operations of the invisible hand in this way:

> Hills, Seas, Mountains, Rivers, Sun & Moon, & Clouds, Men & Beasts, Angels and Devils, all of them are acted, moved, and inclined according to his pleasure, all of them are about his work indeed, as the result of all in the end shal make it appear, & are servants at his command, going where he bids go, and comming where he bids come, led by an invisible hand, though in the mean time they knew it not, but thinks they are about their own businesse. . . . Godly men who knows his Will and loves it, are led by it willingly, for they yeeld themselves up to his disposall: but wicked men who have contrary Wills of their own, they can gain no more by resisting, but to be drawn along with it.[54]

Thus, while human actors "are about their own business," they are also unwittingly "led by an invisible hand" to accomplish God's ends. These cadences seem strikingly similar to Smith's references to the invisible hand. Hugh Binning was, of course, chronologically some distance from Adam Smith, but he nonetheless played a formative role in the distinctively Glaswegian philosophical tradition of which both Frances Hutcheson and Adam Smith were later representatives.[55]

It is possible to discern a degree of convergence between the two dominant early modern conceptions of "invisible hand" as they apply respectively to the distinct realms of history and of nature. Common to both was the idea of beneficial outcomes that were not directly intended by the relevant agents, be they human or insentient. Yet in spite of this convergence there remained important differences. One concerned the evidentiary status of the work of the invisible hand. Calvin, for example, tended to the view that God's providential activity is visible only to the eye of faith. Recognition of God's special providence, in particular, required the adoption of a

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[54] Hugh Binning, *The common principiles [sic] of Christian religion* (Glasgow, 1666), 173. See also Sherlock, *Divine Providence*, 46; Rollin, *Method of teaching and studying the belles letters*, 2: 367; 4: 219; Taylor, *A sermon preach'd in Burcester*, 5; Adams, *An exposition*, 25f; Walter Anderson, *Lectures upon part and portions of the Psalms of David* (Edinburgh: the author, 1797), 110.
[55] Paul Tomassi "Binning, Hugh (1627–1653)," *Oxford Dictionary of National Biography* (Oxford University Press, 2004), http://www.oxforddnb.com/view/article/2422 (accessed December 30, 2008).

particular attitude to events which in other interpretations would be regarded as owing to chance.[56] The workings of the secret or invisible hand, in this view, could not serve as evidence for the existence of God, precisely because they remained invisible to those to whom faith was not given. The operations of the invisible hand in nature were rather different, for they were typically regarded as falling under God's general providence—that is, of his law-like and hence predictable provision for his creatures. In the apparent contingencies of history, God's work was "invisible" not only because it was unseen, but also because it was secret and ultimately inexplicable; in the regular operations of nature, God's activity was unseen, but was nonetheless amenable to rational and indeed mathematical explication. In fact, it was precisely the transparent rationality of these newly discovered mathematical laws that made them a suitable foundation for a new kind of physico-theological argument.

One question raised by this partial convergence of the two dominant early modern conceptions of the invisible hand was whether a moral economy necessarily requires a continual and mysterious fine tuning in order to yield beneficial outcomes (special providence), or whether, like the operations of the natural world, human economic behavior might be brought under the rubric of God's regular activity (general providence). What would make this likely would be the identification of "laws" in the moral and social realm that were analogous to laws of nature. One reading of Smith would see his invocation of the invisible hand as entailing precisely this understanding—that is, as denying recourse to special providence while retaining some role for general providence.

ADAM SMITH AND THE INVISIBLE HAND

This history of the invisible hand should dispel a number of misconceptions. Smith did not coin the phrase, and he did not make it common currency. It is very unlikely that he was indebted to Ovid or Shakespeare for his use of the expression. It is certainly not the case, as Emma Rothschild has suggested, that the "earlier history of invisible hands turns out to be generally grim," for the well-developed providentialist usages described in this paper are by far the most predominant in the early modern literature.[57]

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[56] "What seems to us contingence, faith will recognise as the secret impulse of God." Calvin, *Institutes*, I.xvi.9, tr. Beveridge, 1: 181.

[57] Rothschild, *Economic Sentiments*, 118.

It follows that interpretations of Smith not fully informed by the history of the term need to be revisited. We can now also assume that when Smith's first readers encountered the phrase in his writings they would naturally have read it in a way that was in keeping with the predominant usage, which is to say, as invoking divine providence.[58] There remains, however, the question of whether Smith himself understood it that way.

Before addressing this issue it is worth reminding ourselves of the three instances in which Smith used the expression. First, in his *Lectures on Astronomy*, published after his death, Smith makes reference to "the invisible hand of Jupiter."[59] This seems to be simply a metaphor, not drawing upon any developed conception of the invisible hand and unrelated to his other two references. Smith's second use of the phrase occurs in *The Theory of Moral Sentiments*. Commenting on the beneficial outcomes that follow from the "natural selfishness and rapacity of the rich," Smith observes:

> They are led by an invisible hand to make nearly the same distribution of the necessaries of life, which would have made, had the earth been divided into equal proportions among all its inhabitants, and thus without intending it, without knowing it, advance the interest of the society, and afford means to the multiplication of the species. When Providence divided the earth among a few lordly masters, it neither forgot nor abandoned those who seemed to have been left out in the partition.[60]

The third, and best-known reference appears in *The Wealth of Nations*:

> . . . every individual necessarily labours to render the annual revenue of society as great as he can. He generally, indeed, neither intends to promote the public interest, nor knows how much he is promoting it . . . he intends only his own gain, and he is in this, as

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[58] See, e.g., Thorstein Veblen, "The Preconceptions of the Classical Economists," *Quarterly Journal of Economics* (1899), 241–74, 257f.

[59] Adam Smith, *Lectures on Astronomy* III.2, in *Essays on Philosophical Subjects*, ed. J. C. Bryce and William P. D. Wightman (Oxford: Oxford University Press, 1980), 49f. (henceforth, EPS). "Invisible hand of Jupiter" is rare, but "hand of Jupiter" is relatively common. See A. Macfie, "The Invisible Hand of Jupiter," *Journal of the History of Ideas* 32 (1971): 595–99.

[60] Adam Smith, *The Theory of Moral Sentiments*, ed. D. D. Raphael and A. L. Macfie (Oxford: Oxford University Press), IV.1.10, 184f (henceforth, TMS).

in many other cases, led by an invisible hand to promote an end which was no part of his intention.[61]

The fact that Smith rather casually adopted the expression on just these few occasions and that he introduced it without comment is suggestive of his acquiescence in its contemporary meaning. Had he not intended it to bear its traditional theological implications, he would presumably have chosen another form of words. The references in *Theory of Moral Sentiments* and *Wealth of Nations*, moreover, are consistent with the contemporary usages and seem to have the same implications: first, the idea of unintended, yet beneficial, consequences; second, the notion, explicit in the excerpt from *Moral Sentiments*, that provision for attaining those consequences was orchestrated by the Deity. The thesis of Smith's commitment to a providential understanding of the hand does not rest on these references alone, however, for in numerous other places in *The Theory of Moral Sentiments* he appears to be affirming providentialist conceptions. In the economy of nature, Smith wrote, human beings were motivated by passions and instincts which were acted upon "without any consideration of their tendency to those beneficent ends which the great Director of nature intended to produce by them."[62] Consequently, the individual should direct his attention to "the care of his own happiness, that of his family, his friends, his country": this, again, because "the care of the universal happiness of all rational and sensible beings, is the business of God and not of man."[63]

Admittedly, Smith's idea of the invisible hand differed from some of the examples offered earlier. The providential matching of proximate human goals to general social benefits seems not to be attributed to the actions of a secret special providence, the Calvinist conception of the invisible hand of God in history, but rather a general providence. In other words, God was understood to have instituted general laws which matched human self-love with beneficial social ends. In *The Theory of Moral Sentiments* Smith contended that while we routinely refer to the regularities observed by moving bodies as "laws of motion," our moral faculties also followed "general rules" which more justly could be termed laws of nature.[64] And

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[61] Adam Smith, *An Enquiry into the Nature and Causes of the Wealth of Nations*, 2 vols., ed. R. H. Campbell and A. S. Skinner (Oxford: Oxford University Press, 1975), IV.ii.9, 2: 456.

[62] TMS II.i.5.10, 77.

[63] TMS VI.ii.3.6, 237.

[64] TMS III.5.6, 165.

just as laws of nature in the physical realm exemplified beneficial design, so too, in spite of occasional indications to the contrary, did the laws of morality. "The happiness of mankind," wrote Smith, "seems to have been the original purpose intended by the author of Nature, when he brought them into existence." This conviction, he went on to say, "is still more confirmed by the examination of the works of nature."[65] The underlying conception was neatly encapsulated by Smith's biographer Dugald Stewart: "the general laws of the moral, as well as of the material world, are wisely and beneficently ordered for the welfare of our species."[66] On this reading, Smith draws on the strong tradition of the principle of unintended consequences common to all of the examples considered earlier, but understands the operation of the invisible hand in the realm of moral economy as directly analogous to its regular operations in the natural world. In short, there were certain elements of the contemporary conception of the invisible hand—specifically, those that relied upon a Calvinistic conception of special providence—that Smith did not seem to invoke. At the same time, it looks as though he retained an appeal to general providence in a manner consistent with applications of the invisible hand to the natural order. In short, Smith's linking up of perceived regularities in the moral and physical realms, and his apparent attribution of these to providence, provided a clear warrant for reading him as endorsing a general natural theology and of using the invisible hand as another way of speaking about divine providence. Such a stance did not necessarily entail an endorsement of Christianity per se, of course, for it was equally consistent with deism or a Stoic providentialism.[67]

One objection to this interpretation is that Smith's numerous references to providence and natural teleology do not in fact amount to a per-

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[65] TMS III.5.7, 166. See also TMS VI.3.6.5, 236 and II.iii.3.2. For varying assessments of Smith's attitude to teleology see Knud Haakonssen, *The Science of a Legislator: The Natural Jurisprudence of David Hume and Adam Smith* (Cambridge: Cambridge University Press, 1989), 77–79; Richard A. Kleer, "Final Causes in Adam Smith's *Theory of Moral Sentiments*," *Journal of the History of Philosophy* 33 (1995): 275–300; Kleer, "The Role of Teleology in Adam Smith's *Wealth of Nations*," *History of Economics Review* 31 (2000): 14–29; James E. Alvey, "The Role of Teleology in Adam Smith's Wealth of Nations: A Belated Comment on Kleer," *History of Economics Review* 40 (2004): 137–44.

[66] Dugald Stewart, *Dissertation: Exhibiting the Progress of Metaphysical, Ethical and Political Philosophy*, in *The Collected Works*, ed. William Hamilton (Edinburgh: Thomas Constable, 1854), 491.

[67] These are not necessarily mutually exclusive positions. See P. H. Clarke, "Adam Smith, Stoicism, and Religion in the Eighteenth Century," *History of the Human Sciences* 13 (2000): 49–72.

sonal commitment to those views, but instead serve to highlight the human propensity to offer such explanations. To be sure, on a straightforward reading, most of Smith's references to teleology and divine providence seem to be unqualified endorsements of those doctrines. Yet there are other passages which suggest that Smith ought to have been agnostic about their truth value.[68] In a passage in his "Lectures on Astronomy," Smith remarks that while the Newtonian system had a compelling logic that convinces even the most skeptical mind, in fact all such philosophical systems "are mere inventions of the imagination to connect together the otherwise disjointed and discordant phenomena of nature." Smith readily admitted that he himself had been unable to avoid speaking "*as if* they were the real chains which Nature makes use of to bring together her several operations."[69] If Smith was not committed to the objective truth of Newtonianism, then his apparent affirmation of natural theology might also be understood less as an admission of the logical propriety of inferring the existence and providence of God from the order of nature, than as an observation about the inevitability of such inferences given the human propensity for seeking order in the world. On this interpretation the invisible hand, like the law of gravitation, was an artifact of the human imagination.

The history of the phrase "invisible hand" outlined in this paper does not offer much help in adjudicating between these two interpretations, but perhaps they are not as far apart as they may initially appear. Certainly, on either reading, the contention that the invisible hand was "an ironic joke" or "a rhetorical device" becomes unsustainable. Even the skeptical hypothesis places providential deism and Newtonianism on the same footing, and few commentators regard Smith's references to Newtonian physics as ironic or rhetorical. A genuine difficulty with the skeptical hypothesis lies in its potential for self-reference. It seems fatally to undermine the validity of Smith's own efforts to secure an orderly foundation for moral economy. If, for Smith, all accounts of the intelligibility of the phenomena of the world, both physical and moral, serve only to highlight features of human psychology, it is difficult to see how his own moral and economic philosophies could be anything more than impressive products of the imagination. That said, Smith's ultimate agnosticism on these questions cannot be definitively ruled out. But we could still say that Smith was as committed to providen-

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[68] I am grateful to Knud Haakonssen for drawing this to my attention. See Haakonssen, "Smith, Adam," in *Routledge Encyclopedia of Philosophy*, 10 vols., ed. Edward Craig (London: Routledge, 1998), 8: 817–18. See also Pack, "Theological Implications of Adam Smith's 'Principles.'"
[69] Smith, "Lectures on Astronomy," EPS IV.76, 105 (my emphasis).

tial explanations of the functioning of the moral economy as he was to Newtonian explanations of celestial mechanics; or, that he was conscious of being *psychologically* committed to the validity of both natural science and natural theology. In the specific case, it seems likely, that like the rest of his contemporaries, he believed the invisible hand to be the hand of God. It is just that in places he seemed to treat all of such beliefs as data for further speculation about general features of human psychology.

The subsequent history of interpretation of the invisible hand is testament to Smith's own conviction that "facts" become evidence only insofar as individuals are able to incorporate them into a pre-existing pattern of beliefs. Most of Smith's contemporaries, committed as they were to theism, naturally enough read "invisible hand" as a reference to divine providence. With the waning of theistic commitment among commentators in the twentieth and twenty-first centuries, however, have come increasingly secular readings of Smith.[70]

This trend has its parallels in interpretations of science. The regularization of providence that we see in Smith's own writings readily lends itself to a desacralized conception of all forms of natural and social order. In the nineteenth century, laws of nature, which for their original formulators had been laws impressed by God on inanimate matter, came to be regarded unproblematically as regularities that were inherent in natural things themselves. Hence, gravity, which for the Newtonians had been brought about invisibly by God's constant causal activity, became a property of matter. In the realm of moral economy, too, the apparent matching of the self-interested goals of individuals with more general societal benefits, once the work of God's invisible hand, could similarly be subsumed within the category of "spontaneous order." God's providential oversight, once considered indispensable to a coherent causal explanation, has simply faded from view, since our present explanatory demands are more modest than those of our predecessors. It is not surprising, then, that Smith's invisible hand is commonly read as a purely secular device. Such a reading, however, is not only inconsistent with the way in which Smith's contemporaries read him, but probably also with Smith's own understanding of this dispute-engendering conception.

Harris Manchester College, Oxford.

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[70] See Kleer, "The Role of Teleology."