PRACTICING PPE: THE CASE OF ADAM SMITH*

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Abstract: *Adam Smith has long been celebrated as a polymath, and his wide interests in and contributions to each of the discrete component fields of PPE have long been appreciated. Yet Smith deserves the attention of practitioners of PPE today not simply for his substantive insights, but for the ways in which his inquiries into these different fields were connected. Smith's inquiry was distinguished by a synthetic approach to knowledge generation, and specifically to generating knowledge with applications exportable to other fields. Further, Smith's investigations of various areas of study led him to recognize patterns in and across these fields, and his sensitivity to such patterns helped guide his inquiry and render it a connected enterprise. This paper examines several of Smith's discrete inquiries in the history of astronomy, language, moral philosophy, and political economy, to show how he employed the techniques of pattern detection that he practiced in each of these inquiries to the task of generating new insights into new fields of inquiry. In so doing, Smith not only distinguished himself as an early practitioner of what we today identify with PPE, but he also provides a useful point of reference for those doing PPE today.*

KEY WORDS: Adam Smith, PPE, inquiry, patterns, synthesis

PPE is a unique beast. On the one hand, it demands of its practitioners and students a familiarity with the specialized methods and concepts that distinguish each of its three component disciplines of politics, philosophy, and economics. On the other hand, it challenges its practitioners and students to see these component disciplines not as autonomous fields of study, but as interrelated and overlapping domains. But this is hardly an easy feat to pull off. Time and energy are finite and scarce resources, and all too often it seems that the investments of such resources necessary to master the methods and concepts of a given discipline come at the cost of the time and energy that would be needed to understand the relationship of such methods and concepts to those central to other specialized fields of inquiry.

PPE's practitioners thus face a challenge. Gains in disciplinarity would seem to be bought at the expense of the resources necessary for the interdisciplinarity at the heart of the enterprise of PPE itself. At the same time, there may also be a more optimistic way of looking at this — one that moves beyond discussions of disciplines and interdisciplinarity more generally.[1]

[1] For helpful overviews of the ways in which scholars today understand different types of disciplinarity and interdisciplinarity, see e.g. Julie Thompson Klein, "A Taxonomy of Interdisciplinarity," in *The Oxford Handbook of Interdisciplinarity*, ed. Robert Frodeman, et al., (Oxford: Oxford University Press, 2010), 15–30; and John D. Aram, "Concepts of Interdisciplinarity: Configurations of Knowledge and Action," *Human Relations* 57 (2004): 379–412.

For it may be that time and energy spent in one field can pay off in new insights in other fields, if indeed these time and energy expenditures enable us not only to better understand familiar phenomena, but also sensitize or condition us in ways that enable us to recognize certain patterns as we turn from already familiar phenomena to new and unfamiliar phenomena. This, at any rate, seems to lie at the heart of the methods of inquiry employed by one of the founding fathers of PPE, Adam Smith.

Smith has long been celebrated as a polymath, and his wide interests in and contributions to each of the discrete component fields of PPE — not to mention his interests in and contributions to jurisprudence, rhetoric, the imitative arts, and the history of science — have all long been appreciated.[2] But Smith deserves attention from practitioners of PPE today not simply for his substantive insights, but for the ways in which his inquiries into these different fields were connected. On this front, the key point is that Smith's inquiry was distinguished by a synthetic approach to knowledge generation, and specifically to generating knowledge with applications exportable to other fields. Smith's investigations of various areas of study led him to recognize patterns in and across these fields, and his sensitivity to such patterns helped to guide his inquiry. Further, attending to this aspect of Smith's approach to inquiry also helps us to see the degree to which Smith understood his inquiries into these various discrete fields to form a connected enterprise. Smith ranged widely as an inquirer, but he was hardly a dilettante who dabbled in random areas. Instead Smith used what he learned in one field to help him better understand and answer recognizably similar emerging research questions in other fields.

Here is where Smith's significance for today's practitioners of PPE lies. Aside from the conceptual question of whether PPE can or should be seen as a unified field rather than merely an aggregation of discrete disciplines, scholars engaged in PPE face a practical and personal question: namely, is there a point at which we stop being "merely" the philosophers or political scientists or economists that most of us were trained to become, and start doing something identifiable as PPE? Attending to Smith's example helps us identify this point with precision: we stop "merely" doing philosophy or politics and economics and start doing PPE at that moment at which we export our recognition of patterns in one field and begin to apply them as a way of making sense of the phenomena and data of other cognate fields. Of course, caveats apply: first, there is no reason to believe that Smith's route is the *only* route into PPE; and second, the simple fact that for many of us PPE is something we come to do after having done philosophy or politics or economics implies nothing about the relative value of such enterprises (thus the scare quotes around "merely").

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[2] For a recent explicit identification of Smith as a polymath, see e.g. Kwangsu Kim, "Adam Smith's 'History of Astronomy' and View of Science," *Cambridge Journal of Economics* 36 (2012): 799.

But for those engaged in the sort of inquiry that Smith pioneered — inquiry into political and philosophical and economic questions whose progress is specifically driven by the articulation of exportable insights and methods — attending to his example can help us articulate precisely how our inquiry is both related to and distinct from the disciplines on which it draws.

I. Smith's Approach to Inquiry: Background and Foundations

Smith's interest in what we now call PPE may come as a surprise to those who know him only as the author of *Wealth of Nations*. The *Wealth of Nations* itself famously opens with a defense of the advantages of specialized divided labor, and argues, in the context of its study of the pin factory, that specialized divided labor "occasions, in every art, a proportionable increase of the productive powers of labour" (WN 1.1.4).[3] And for additional confirmation of the remarkable productivity increases that specialized divided labor makes possible, Smith goes on to celebrate its advantages to "those who are called philosophers or men of speculation, whose trade it is, not to do any thing, but to observe every thing." Indeed philosophers, just like pin makers, are said to be more productive if they focus their attention on ever narrower questions and problems:

> In the progress of society, philosophy or speculation becomes, like every other employment, the principal or sole trade and occupation of a particular class of citizens. Like every other employment too, it is subdivided into a great number of different branches, each of which affords occupation to a peculiar tribe or class of philosophers; and this subdivision of employment in philosophy, as well as in every other business, improves dexterity, and saves time. Each individual becomes more expert in his own peculiar branch, more work is done upon the whole, and the quantity of science is considerably increased by it. (WN 1.1.9)

In his unpublished drafts of this passage Smith names the sub-specializations that he has in mind, noting that "we have mechanical, chemical, astronomical, physical, metaphysical, moral, political, commercial, and critical philosophers" (ED 2.20). And this, he clearly thinks, is all to the good: the fact that philosophy has been "subdivided into various provinces" explains its increased productivity (LJA vi.43).

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[3] References to Smith's works are to the Glasgow Edition as published in paperback by Liberty Fund. Citations are to the standard paragraph numbering system, and individual titles take the following abbreviations: ED = "Early Draft" of the *Wealth of Nations*, in LJ; EPS = *Essays on Philosophical Subjects*; FFL = "Considerations on the First Formation of Languages," in LRBL; HA = "History of Astronomy"; LJ = *Lectures on Jurisprudence*; LRBL = *Lectures on Rhetoric and Belles Lettres*; Stewart = "Account of the Life and Writings of Adam Smith, L.L.D.," in EPS; TMS = *Theory of Moral Sentiments*; WN = *Wealth of Nations*.

Smith thus clearly recognized the benefits of specialization in philosophical or scientific inquiry, and his celebration of its division into ever-smaller "provinces" may seem on its face to read like a challenge to the sort of inquiry PPE involves. Yet these claims need to be read in the context of Smith's own career as a teacher and researcher. Smith held only one academic appointment in his career, teaching for thirteen years at the University of Glasgow, and his work at Glasgow was in fact consummately interdisciplinary.[4] Smith was originally hired in 1751 as Professor of Logic, and his first biographer reports that in his logic class, "after exhibiting a general view of the powers of the mind, and explaining so much of the ancient logic as was requisite to gratify curiosity," Smith then "dedicated all the rest of his time to the delivery of a system of rhetoric and belles letters" (Stewart 1.16). This course has come down to us in the form of a set of student lecture notes that have been preserved and published under the title of *Lectures on Rhetoric and Belles Lettres*. Even a casual reading of this text is bound to leave modern readers impressed by the amount of work that went into the preparation of this course. Yet for all this work, Smith was hardly able to skate by on his initial preparation. In his second year at Glasgow, Smith was appointed to the chair of moral philosophy — a chair that required teaching not simply a new course, but one that we would today consider interdisciplinary. His biographer reproduces a report about this from one of Smith's former students:

> [h]is course of lectures on this subject was divided into four parts. The first contained Natural Theology; in which he considered the proofs of the being and attributes of God, and those principles of the human mind upon which religion is founded. The second comprehended Ethics, strictly so called, and consisted chiefly of the doctrines which he afterwards published in his Theory of Moral Sentiments. In the third part he treated at more length on that branch of morality which relates to *justice* . . . In the last part of his lectures, he examined those political relations which are founded, not upon the principle of *justice*, but that of *expediency*, and which are calculated to increase the riches, the power, and the prosperity of a State. (Stewart 1.18–20)

Only two years into his teaching career, Smith was responsible for offering instruction in subjects that we today can recognize as integral parts of disciplines ranging across logic, rhetoric, theology, moral philosophy, law, political science, and economics. Thus for all his celebration of disciplinary specialization in the *Wealth of Nations*, Professor Smith could lay legitimate

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[4] For details on Smith's career at Glasgow, see esp. W. R. Scott, *Adam Smith as Student and Professor* (Glasgow: Jackson, Son, and Co., 1937), chaps. 6–7; in addition to Ian Ross, *The Life of Adam Smith*, 2nd ed. (Oxford: Oxford University Press, 2010), chaps. 8–10; and Nicholas Phillipson, *Adam Smith: An Enlightened Life* (New Haven: Yale University Press, 2010), chaps. 6 and 8.

claim to familiarity with and indeed a high degree of competence in philosophy, politics, and economics.[5]

Yet what matters for us here is not simply the fact that Smith was interested in these fields, but how he extended and exported insights from one field to others. For example, students of Smith's moral philosophy know that spectatorship is key to his ethics; the foundational role of the "impartial spectator" has long been a focus of studies of Smith's moral thought.[6] But spectatorship is also key to his methods of inquiry. We have already had a hint of this in his description of philosophers; recall those "philosophers or men of speculation, whose trade it is, not to do anything, but to observe everything" (WN 1.1.9). Smith's claim that the activity of philosophy lies in "observing," along with his explicit association of philosophy with "speculation," suggests the centrality of seeing to philosophic or scientific inquiry. By making this association, Smith locates himself in an ancient tradition that associates philosophy with seeing; both the ancient Greek word for theory, *theoria*, and the Sanskrit word for philosophy, *darsana*, famously find their roots in their respective languages' words for the verb describing the activity of sight.[7] But what is important for us here is that the sort of philosophical sight that Smith practices focuses on seeing systems. In this sense, the key feature of Smithean philosophical sight — what renders it not just mere sight but insight — is the capacity to see how pluralities of discrete entities are coordinated in a way that forms a coherent whole. This is the sort of seeing that often governs Smith's inquiries into complex systems. From his studies of the history of science and the history of language to his studies of moral judgments and the price system, Smith aims to show how what might appear to be random associations of discrete entities on closer examination reveal themselves to be integrated wholes composed of interconnected elements. On these grounds, Smith's inquiry into the fields associated with PPE might be said to be synthetic in two ways. It is synthetic first insofar as it shows how a certain type of philosophical sight can synthesize seemingly discrete and independent pluralities into a unified whole. It is synthetic in a second sense insofar as it bridges multiple fields of inquiry, using the process of generating conceptualizable wholes in one discipline as a template or pattern for similar efforts in other disciplines.

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[5] Smith's administrative activities at Glasgow during this same period were equally multidisciplinary; see for example the striking list of his book purchases as Quaestor for the University Library (Scott, *Smith as Student and Professor*, 178–82), as well as his support for the creation of new chemical laboratories at the university (see Phillipson, *Adam Smith*, 130–31; Scott, *Smith as Student and Professor*, 147–48).

[6] For key recent studies, see e.g. Alexander Broadie, "Sympathy and the Impartial Spectator," in *The Cambridge Companion to Adam Smith*, ed. Knud Haakonssen (Cambridge: Cambridge University Press, 2006), 158–88; and D. D. Raphael, *The Impartial Spectator: Adam Smith's Moral Philosophy* (Oxford: Oxford University Press, 2007), esp. 32–42.

[7] See e.g., Hans Jonas, "The Nobility of Sight," *Philosophy and Phenomenological Research* 14 (1954): 507; and Mircea Eliada, *Yoga: Immortality and Freedom* (Princeton, NJ: Princeton University Press, 1969), 6.

Provisionally then, Smith's aim as a philosophical or scientific inquirer might be described as an effort to establish the connections that bind together seemingly unrelated and chaotic multiplicities and demonstrate how they might be shown to appear to the mind as stable systems governed by uniform processes.[8] Put slightly differently, Smith can be said to be engaged in a sort of methodological *e pluribus unum*, generating wholes out of pluralities. Yet this itself requires something more than simply capacity for sight. For sight to become insight, Smithean inquiry also requires a second faculty, namely a capacity for association. As several have noted, Smith's essay on the history of astronomy prominently highlights the association of ideas — an epistemic concept central to Hume among many thinkers with whom Smith was engaged.[9] But for our purposes, the capacity for associating resembling objects makes it possible creatively to join together objects and ideas in ways that illuminate connections well beyond those evident to sight alone. In this sense, sight and imagination each have specialized roles to play in the labor of Smithean inquiry, with sight affording initial access to the discrete data out of which the imagination subsequently forges synthetic connections, allowing this data to be conceptualized as an interconnected system. This, at any rate, seems to be the process consistently at work in and across Smith's investigations of questions as diverse as the history of science, the evolution of human language, the emergence of moral norms, and the functioning of economic institutions.

II. The History of Astronomy

Smith's first sustained written engagement with disciplines beyond those to which he would later be recognized as a preeminent contributor

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[8] Several scholars have examined the question of the degree of Smith's commitment to realism or anti-realism in these debates; for a survey and response, see esp. Christopher Berry, "Smith and Science," in *Cambridge Companion to Adam Smith*, 121–26. Other recent studies have read Smith through the lenses of both critical realism (e.g., Kim, "Smith's 'History of Astronomy' and View of Science," esp. 813–17) and skeptical realism (e.g., Hanley "Scepticism and Naturalism in Adam Smith," in *The Philosophy of Adam Smith*, ed. Vivienne Brown and Samuel Fleischacker [London: Routledge, 2010], esp. 208), and have carefully attended to the precise nature and extent of his skepticism (see esp. Eric Schliesser, "Wonder in the Face of Scientific Revolutions: Adam Smith on Newton's 'Proof' of Copernicanism," *British Journal for the History of Philosophy* 13 [2005]: 697–732). But I am less interested here in the question of the nature or degree of Smith's commitments to realism and/or to skepticism than in the ways in which Smith consistently employed his predilections to system construction and pattern detection across various fields of inquiry.

[9] Key studies of Smith's debts to Hume on this front include Andrew S. Skinner, "Adam Smith: Science and the Role of the Imagination," in *Hume and the Enlightenment*, ed. W. B. Todd (Edinburgh: Edinburgh University Press, 1974); and Raphael, "The 'True Old Humean Philosophy' and Its Influence on Adam Smith," in *David Hume: Bicentenary Papers* (Edinburgh: Edinburgh University Press, 1977). I have engaged and sought to extend these studies in several places, including "Scepticism and Naturalism in Adam Smith"; and "Smith and Hume on Moral Philosophy," in *The Oxford Handbook of David Hume* (Oxford: Oxford University Press, 2016).

comes in the form of his three essays on the history of astronomy, the history of logic and metaphysics, and the history of physics. These essays tend to be studied today for the light they shed on Smith's epistemology and his conception of scientific inquiry. To this end, they focus particularly on the way in which the "intellectual sentiments" of wonder, surprise, and admiration, when supplemented by the principles of association, serve to engender and advance scientific inquiry.[10] But in addition to developing a theory of the epistemic faculties at work in the mind of an individual inquirer, these essays also offer intellectual histories of their subjects, tracing their progress and evolution — and it is this side of the essays that is important for our study of Smith's synthetic approach to inquiry. On this front, the essays aim to establish a coherent synthetic narrative out of a number of disparate items; in this sense, his "history of astronomy" is itself a synthetic enterprise in which a historical narrative is built out of a set of disparate and even conflicting discrete theories that have been linked together to form a chain. The astronomy essay in this way forms a key part of Smith's larger project of developing what his literary executors described as "a connected history of the liberal sciences and the elegant arts."[11] Moreover, Smith evidently regards the history of astronomy not simply as a connected linear trajectory but a dynamic and evolutionary system that has recently achieved a stable equilibrium.

To see this, we need to turn to the text itself. After describing the essential intellectual sentiments in the first part of the essay, in the second part of the essay Smith turns to the mechanism of association via resemblance. This has often been read as extending Hume's understanding of the epistemic faculties of the individual human mind.[12] This is clearly right, but in Smith's hands it takes on unique broader applications. For when Smith describes the operations of association, he sets forth not merely the core principles of human psychology but also the principles on which he himself will draw in constructing his synthetic history of astronomy. Here is how he begins:

> It is evident that the mind takes pleasure in observing the resemblances that are discoverable betwixt different objects. It is by means of such observations that it endeavours to arrange and methodize

[10] Helpful studies include Herbert F. Thomson, "Adam Smith's Philosophy of Science," *Quarterly Journal of Economics* 79 (1965): 212–33; J. Ralph Lindgren, "Adam Smith's Theory of Inquiry," *Journal of Political Economy* 77 (1969): 899ff; Berry, "Smith and Science"; Schliesser, "Wonder in the Face of Scientific Revolutions," esp. 699–702; and Craig Smith, "The *Essays on Philosophical Subjects*," in *Adam Smith: His Life, Thought, and Legacy*, ed. Hanley (Princeton, NJ: Princeton University Press, 2016), 89–104.

[11] As quoted in Craig Smith, "*Essays on Philosophical Subjects*," 89.

[12] In addition to the classic studies cited at note 9 above, see more recently Craig Smith, "*Essays on Philosophical Subjects*," 92–95; Kim, "Smith's 'History of Astronomy' and View of Science," 800–802; Charles Griswold, "Imagination: Morals, Science, and Arts," in *Cambridge Companion to Adam Smith*; and Berry, "Smith and Science," 117ff.

all its ideas, and to reduce them into proper classes and assortments.
Where it can observe but one single quality, that is common to a great
variety of otherwise widely different objects, that single circumstance
will be sufficient for it to connect them all together, to reduce them to
one common class, and to call them by one general name. (HA 2.1)

Here Smith describes how individual inquirers synthesize discrete objects.
But it also suggests how Smith himself will synthesize the discrete objects
of his inquiry — that is, the discrete astronomical theories developed by
different individuals over time — into a "history of astronomy."

  The key to this process is an inquirer's capacity to see a chain that con-
nects one discrete phenomenon to others. This process begins with won-
der, the intellectual sentiment that we are said to experience when we are
confronted by any discrete phenomenon that "stands alone and by itself
in the imagination, and refuses to be grouped or confounded with any
set of objects whatever" (HA 2.3). Wonder in this sense prompts a sort of
psychic distress, and this distress is heightened when we are confronted
not simply by one unconnected phenomenon but "a succession of objects
which follow one another in an uncommon train or order" (HA 2.5). In
such circumstances, no connection or association can be found between
the objects that we see. This is important as it helps Smith to define the
opposite of this psychically disturbing state. This more harmonious state
is brought about when objects come to be seen as "connected together
in the fancy, that the idea of one seems, of its own accord, to call up and
introduce that of the other." This however requires a creative application
of the association of ideas by the imagination or "fancy." Only when the
imagination thus comes to extend the initial work done by sight can we in
fact see a coherent whole:

> When objects succeed each other in the same train in which the ideas
> of the imagination have thus been accustomed to move, and in which,
> though not conducted by that chain of events presented to the senses,
> they have acquired a tendency to go on of their own accord, such
> objects appear all closely connected with one another, and the thought
> glides easily along them, without effort and without interruption.
> They fall in with the natural career of the imagination. (HA 2.7)

In this way imagination supplements the senses, forging connections that
enable the building of wholes out of the raw data afforded by sensation.[13]
This is especially key for our purposes. Many have noted the role that

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[13] On this front, see also Thomson's helpful account of Smith's criteria for useful analogy:
"it must be simple; it must be familiar; and it must be capable of uniting the otherwise dis-
connected and chaotic phenomena of the field in which it is to be applied" ("Smith's Philos-
ophy of Science," 224).

imagination plays in Smith's theory of scientific inquiry insofar as it especially helps to build bridges between seemingly disconnected phenomena, focusing especially on how the imagination encourages "the supposition of a chain of intermediate, though invisible, events, which succeed each other . . . and which link together those two disjointed appearances" (HA 2.8). But what remains to be seen is the degree to which Smith himself practices what he here describes; in this sense, Smith, in building his history of astronomy, can himself be seen as engaged in the project of establishing imaginative connections between discrete concepts — in this case, astronomical theories — in such a way that bridges them together and thereby enables a coherent synthetic account of progress in the discipline to emerge.[14]

Seeing this requires turning from the epistemic accounts of Parts 1 and 2 of the essay to the historical narrative set forth in Parts 3 and 4. This narrative is itself consistently governed by two synthetic principles as it develops its evolutionary and progressive account of the history of astronomy. First, it consistently attributes the success of individual theories to a capacity to synthesize phenomena in ways more compelling than those offered by rival theories. In this vein, Smith begins by noting how the "Italian school" was "capable of connecting together, in the imagination, the grandest and the most seemingly disjoint appearances in the heavens" (HA 4.4). He then turns to Eudoxus, who refined the Italian school's theory of concentric spheres by adding more spheres in such a way that "the imagination could easily attend to and pursue, and which connected together that otherwise incoherent diversity of movements observable in the sphere of the planet" (HA 4.7). So too the rival theory founded on the invention of eccentric spheres and epicycles, sought "to connect together those disjoined appearances, and to introduce harmony and order into the mind's conception of the movements of those bodies" (HA 4.13). Likewise, Copernicus "without the assistance of epicycles, connected together, by fewer movements, the complex appearances of the heavens" (HA 4.30).

All of these accounts conspicuously emphasize how their subjects forged imaginative connections between discrete phenomena. But Smith's own activity as a historian of science is guided by a similar ambition. Smith's narrative is built around a series of instances in which the advances of one theory give rise to "new inequalities" for which a remedy could only be provided by a new theory (HA 4.7); in this way Smith shows how one innovation gives rise to further innovations in an effort to remedy

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[14] Schliesser has noted that "Smith does not provide a compelling account of the imagination's creativity," and "hence, Smith's story can account for the standpoint of only the spectator, but not of the actor: he can only explain theory acceptance but not discovery" ("Wonder in the Face of Revolutions," 716–17). This seems right, but Smith's enacting of this creative process in his own right as an inquirer may offer us an example of this process in practice that partly mitigates such shortcomings.

the problems posed by earlier innovations. In this way, the history of astronomy comes to seem less like a series of radical breaks and disconnections and more like a unitary and evolving narrative itself governed by a "chain of intermediate though invisible" connections (HA 2.8). And seen in this way, Smith's study of the history of astronomy reveals itself to be not merely an account of the principles that govern philosophical inquiry but a philosophical inquiry in its own right. In his conclusion to the second part of the essay, Smith famously describes philosophy as "the science of the connecting principles of nature" (HA 2.12). But in Smith's hands, the history of philosophy is itself a synthetic and hence philosophical enterprise, one dedicated to discovering the connecting principles of scientific theories and organizing these discrete theories into a coherent and readily grasped whole.

III. Considerations on Language

Smith's inquiry into the origin and evolution of language provided him with a second opportunity to utilize his skills at synthetic inquiry, and indeed to extend the processes he had first applied in his study of the history of astronomy to a new field of inquiry. This second inquiry was first published in 1761 as "Considerations on the First Formation of Languages." Smith's solicitude for the essay is clear, insisting after its first publication that it be appended to the third and all subsequent editions of the *Theory of Moral Sentiments*.[15] But why was he so attached to the piece? In part this likely owes to its substantive claims, and especially its suggestion that language represents an unplanned medium of exchange — a claim that has been rightly seen as paralleling several substantive claims in his economic thought.[16] But there is also a methodological significance to the language essay, one that indeed connects it to the astronomy essay. For like the astronomy essay, the essay on languages is synthetic in two senses. First, its sketches of the most significant stages in the history of the evolution of language conspicuously emphasize the way in which they emerged as the result of the human understanding's proclivities to synthetic association. But in addition, Smith's account of the larger trajectory of the evolution of language can be seen as an effort in its own right to establish the synthetic connections necessary to explain how the discrete and particular elements of language came to be joined into an interconnected system.

[15] Raphael and Macfie, "Introduction," in TMS, 38–39; Phillipson, *Adam Smith*, 165–66; and esp. Marcelo Dascal, "Adam Smith's Theory of Language," in *Cambridge Companion to Adam Smith*, 79ff.

[16] See esp. James Otteson, *Adam Smith's Marketplace of Life* (Cambridge: Cambridge University Press, 2002), esp. 258–74. For the broader claim that "Smith regarded language as the prototype of the imitative arts and so also of inquiry" more generally, see Lindgren, "Smith's Theory of Inquiry," 906.

The languages essay hits the ground running, declaring in its opening line that "[t]he assignation of particular names, to denote particular objects, that is, the institution of nouns substantive, would probably, be one of the first steps towards the formation of language" (FFL 1). The significance of this opening consists in its emphasis on "particular names" and "particular objects." In the astronomy essay, as we have seen, science begins with observation of particular phenomena, and goes on to attempt to account for those further particulars that cannot be brought under existing explanatory categories and thereby to bring within its compass the particulars that stand outside of current models. But language, we now learn, seems to evolve in a similar manner. The first nouns, Smith goes on to explain, are assigned not just to particulars, but to "those objects only which were most familiar to them." Later,

> when the more enlarged experience of these savages had led them to observe, and their necessary occasions obliged them to make mention of other caves, and other trees, and other fountains, they would naturally bestow, upon each of those new objects, the same name, by which they had been accustomed to express the similar object they were first acquainted with. The new objects had none of them any name of its own, but each of them exactly resembled another object which had such an appellation. It was impossible that those savages could behold the new objects, without recollecting the old ones; and the name of the old ones, to which the new bore so close a resemblance. (FFL 1)

Language evolves along lines similar to those along which scientific inquiry evolves; that is, recognition of resemblance makes it possible to connect unknown objects to known objects. Indeed just as science aims to define laws that hold across a class of objects and which consequently enable us to see such objects as comprising a single system, so "those words, which were originally the proper names of individuals, would each of them insensibly become the common name of a multitude" via "application of a name of an individual to a great multitude of objects, whose resemblance naturally recalls the idea of that individual" (FFL 1-2).[17]

In this way, both science and language progress by employing the principles of apprehension and association to extend generalizations about known particulars to unknown particulars, thereby unifying them under a coherent heading or system. Yet this is only one way in which the synthetic principle works in Smith's language inquiry. Smith himself is

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[17] For further details of this process, see esp. Dascal, "Smith's Theory of Language," 88–90. Smith also seems to approach the arts in a similar fashion. In this vein see especially Lindgren, who says that what distinguishes and unites Smith's conceptions of painting and dance and music is that "the parts of the artifact are arranged according to certain rules" (Lindgren, "Smith's Theory of Inquiry," 905).

in fact as much a synthesizer and system builder as those rude "savages" that he profiles in his first pages. This is evident as he turns to his larger account of the evolution of language across its various stages. In turning from his explicit focus on individual language users to the relationships of language users across time, Smith employs a set of synthetic principles to account for this evolution. This is especially evident in his discussion of prepositions. Prepositions are the first new part of speech to follow the development of nouns, and they fascinate Smith for their dually synthetic character. On the most basic level, prepositions are formally defined as connecting instruments: "words which express relation . . . in concrete with the co-relative object" (FFL 5). Thus prepositions, like adjectives, are the inventions of one who "must have observed and compared together a great number of objects, must have remarked their resemblances and dissimilitudes" (FFL 7) — that is, ones who are capable not merely of apprehension but also of comparison and imaginative connecting of objects. And Smith makes clear that this requires a cognitive faculty beyond simple sensation: "A relation is, in itself, a more metaphysical object than a quality," for indeed "qualities are almost always the objects of our external senses; relations never are" (FFL 12).

As Smith begins to chart out the evolution of language in greater detail and over a longer time horizon, his earlier focus on the ways in which language users forged these resemblances begins to give way to an ever more explicit focus on his own emphasis on resemblances. Put slightly differently, just as his narrative of the progress of astronomical science depended on his forging a chain between discrete moments that enables us to see the larger evolution as an unbroken whole, so too his narrative of the evolution of language depends on his forging together various discrete linguistic discoveries into a larger chain that produces a larger whole. This becomes clearer as he comes to treat the evolution of verbs. Smith begins his story on this front noting that even if "the declensions of the ancient languages are so very complex, their conjugations are infinitely more so," with each complexity owing to "the difficulty of forming, in the beginnings of language, abstract and general terms" (FFL 26). Yet in time, the evolution of verbs comes to represent "undoubtedly a simplification of the language" as that "great variety of declensions" comes to give way to "one universal declension, which is the same in every word" (FFL 33) — a microcosmic illustration of Smith's basic principle that "language becomes more simple in its rudiments and principles, just in proportion as it grows more complex in its composition" (FFL 41; cf. FFL 30, 36). The key claim here is that the evolution of languages suggests a trajectory toward ever greater unity and simplicity in the same way that astronomy's progress culminated in the production of a simple and elegant system in which a great number of phenomena could be explained by a single law.

IV. The Moral Sentiments

Smith's interest in demonstrating how associative connections can help to build unified wholes out of seemingly discrete pieces of information seems evident in his histories of both science and language. But of what significance are these for our appreciation of his contributions to PPE's central fields of philosophy, politics, and economics? In his ethical and economic writings Smith in fact often employs an approach similar to the one that we have been examining to this point. This section details three manifestations of this approach in the *Theory of Moral Sentiments*: its account of sympathy, its account of judgment, and its portrait of the one Smith calls "the wise and virtuous man."

Smith's theory of sympathy has long been recognized as central to his ethics. Sympathy in fact plays a number of discrete roles in his ethical system, but the most important for our present purposes is its role in the rise of the emergence of moral norms. Smith's account of how sympathy exchanges function to create universally accepted moral norms is in fact structurally similar to his accounts of the evolutions of both science and language.[18] As we saw above, Smith's accounts of the evolutions of both science and language are governed by efforts to show how multiple discrete items can be understood as "hanging together" into coherent systems connected by coordinating processes and system-wide laws. This same effort governs Smith's account of sympathy exchange, which Smith himself largely conceives as an effort to explain how sympathy's many diverse moral judgments can coalesce on terms of "harmony and correspondence" (TMS 1.1.4.5). As is well known, the challenge here lies in the fact that we always feel much more intensely what affects our own selves than we feel what principally affects other people. Thus for harmony to emerge, on Smith's account, spectators need to raise the pitch of their concern for others via an effort of sympathy and those being observed to lower the pitch of their concern for themselves through self-command — only in this way can that "correspondence of sentiments between the spectator and the person principally concerned" be brought about (TMS 1.1.4.6). But what is important in this largely familiar process is that the harmony or correspondence that Smith here describes is not akin to simple equality or homogenous uniformity. He knows well that the sentiments of many individuals can "never be unisons"; it is enough if they are merely, as he says, "concords."[19] Now, these claims do crucial work in Smith's ethics; as several have seen, Smith here lays the foundations both for his normative

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[18] See esp. Otteson, *Smith's Marketplace of Life*, 285–89. On the role of sympathy and spectatorship in the acceptance of scientific theory specifically, see esp. Schliesser, "Wonder in the Face of Scientific Revolutions," 710–15.

[19] In this context, see also Dascal's account of the "critical-eclectic non-reductionist alternative" that he finds at work in FFL and elsewhere and which similarly strives for unity without imposing uniformity or denying plurality ("Smith's Theory of Language," 108).

insistence on the need to generate a capacity to take on the perspectives of others in society, as well as his understanding of how moral norms can be said to emerge spontaneously and from the bottom up rather than being imposed from on high by elites. But for our purposes, the crucial point is that Smith's conceptualization of this central feature of his ethics is governed by the same concern that we have seen manifested in several other contexts: namely the effort to uncover the coordinating processes that enable multiple discrete pieces of data to be conceptualized as an integrated whole governed by standards toward which the individual data-points tend to gravitate.

This act of sympathy exchange thus stands as a first instance in Smith's ethics of the methodological *e pluribus unum* described above. But this is hardly the only instance. Smith's account of self-judgment in Part III can be understood on similar lines. Self-judgment, like sympathy, is a central component of Smith's ethics; as specialists know well, beginning with the fourth edition of the text, published in 1774, a subtitle was added to the work so that its title page announced it as *The Theory of Moral Sentiments, or An Essay towards an Analysis of the Principles by which Men naturally judge concerning the Conduct and Character, first of their Neighbours, and afterwards of themselves*.[20] As this title suggests, and the book's argument makes clear, our judgments of ourselves are not the result of any simple comparison of our merits or demerits with an innate or received standard. Thus in a crucial and well-known passage, Smith explains:

> Were it possible that a human creature could grow up to manhood in some solitary place, without any communication with his own species, he could no more think of his own character, of the propriety or demerit of his own sentiments and conduct, of the beauty or deformity of his own mind, than of the beauty or deformity of his own face. All these are objects which he cannot easily see, which naturally he does not look at, and with regard to which he is provided with no mirror which can present them to his view. Bring him into society, and he is immediately provided with the mirror which he wanted before. It is placed in the countenance and behavior of those he lives with, which always mark when they enter into, and when they disapprove of his sentiments; and it is here that he first views the propriety and impropriety of his own passions, the beauty and deformity of his own mind . . . Bring him into society, and all his own passions will immediately become the causes of new passions. He will observe that mankind approve of some of them, and are disgusted by others. He will be elevated in the one case, and cast down in the other; his desires and aversions, his joys and sorrows, will now often become the causes

[20] Raphael and Macfie, "Introduction," in TMS, 39–40.

of new desires and new aversions, new joys and new sorrows; they
will now, therefore, interest him deeply, and often call upon his most
attentive consideration. (TMS 3.1.3)

This passage has attracted significant attention for the degree to which
it seems to suggest Smith's acceptance of the "social construction of the
self."[21] But it is also significant for its methodological claims. The formal
claim here is that it is only by living in society and by studying how all
those around us react to us that we come to be provided with the data
we need in order to be able to judge ourselves. But at this point we can
recognize the degree to which this account is in harmony with Smith's
methodological *e pluribus unum*. The capacity for self-judgment depends
precisely on an agent's capacity to synthesize into a moral standard the
tremendous mass of data afforded by living with others and apprehend-
ing their constant judgments of our behavior. Indeed, our principal task
as judges of our own selves is to take this multiplicity of data and to distill
from it the standard that can serve as a legitimate rule for the ordering of
our moral lives.

A third place in the *Theory of Moral Sentiments* where this methodological
perspective is evident is its portrait of "the wise and virtuous man." Smith
presents the wise and virtuous man as a paragon of excellence worthy of
our emulation, and in this sense his account of the wise and virtuous man
is of key substantive import for his larger theory of virtue.[22] But limiting
ourselves again to the methodological significance of this account, what
is especially interesting here is the way in which the wise and virtuous
man comes to apprehend his conception of moral perfection. On this front,
Smith explains,

> There exists in the mind of every man, an idea of this kind, gradu-
> ally formed from his observations upon the character and conduct
> of both himself and of other people. It is the slow, gradual, and pro-
> gressive work of the great demigod within the breast, the great judge
> and arbiter of conduct. This idea is in every man more or less accu-
> rately drawn, its colouring more or less just, its outlines are more or
> less exactly designed, according to the delicacy and acuteness of that
> sensibility, with which those observations were made, and according
> to the care and attention employed in making them. In the wise and
> virtuous man they have been made with the most acute and delicate
> sensibilities, and the utmost care and attention have been employed
> in making them. Every day some feature is improved; every day some

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[21] See e.g. Fleischacker, *A Third Concept of Liberty: Judgment and Freedom in Kant and Adam Smith* (Princeton, NJ: Princeton University Press, 1999), 49–51 (quote at 51).

[22] I develop this claim in *Adam Smith and the Character of Virtue* (Cambridge: Cambridge University Press, 2009), 187–208.

blemish is corrected. He has studied this idea more than other people, he comprehends it much more distinctly, he has formed a much more correct image of it, and is much more deeply enamoured of its exquisite and divine beauty. (TMS 6.3.25)

The excellence of the wise and virtuous man consists not simply in the nobility of his character but also in his capacity for the precise sort of synthetic philosophic insight that has been our focus. Beginning with careful observation afforded by sensibility, the wise and virtuous man takes care to synthesize these discrete observations into a single and "more correct image." In this sense, the wise and virtuous man is at once a paragon of intellectual as well as ethical virtue, as well as a master practitioner of the synthetic approach that Smith himself practices in his inquiry.

V. Political Economy

How then does Smith's repeatedly demonstrated interest in synthetic and coordinated processes inform the disciplinary inquiry for which he remains best known, namely his economic inquiry? What follows suggests that Smith's economic inquiry deserves to be seen as shaped by his commitment to synthetic, exportable pattern uncovering. Indeed his account of the foundational concepts on which his defense of commercial society is built — the division of labor and the price system in particular — are themselves applications of Smith's synthetic method of inquiry to economic subjects. For just as his inquiries in science and language and ethics were dedicated to uncovering the mechanisms that both coordinate and render coherent seemingly chaotic multiplicities, so too Smith's economic inquiry aims to show how specific coordinating mechanisms serve to render coherent several phenomena in economics. In this sense, Smith's economic inquiry cannot be understood simply as an effort on his part to make progress on a set of specific questions that he inherited from previous thinkers. Without denying that Smith was a careful student of available treatments of economic phenomena, his conception of the questions central to economic inquiry seems to have been shaped as much by his methods of engaging non-economic phenomena as by his study of existing economic thought. And insofar as Smith's economic inquiry is an application of his synthetic methods of studying systems to a new range of human phenomena, his inquiry reveals itself to be exportable, applying the lessons learned in inquiry in fields outside economics to create new insights into economic behavior.

It is beyond the scope of this essay to examine all the ways in which Smith's economic inquiry in the *Wealth of Nations* employs this synthetic methodological approach. A full study on these lines would need to examine his treatments of the origin and evolution of money, his views on the

advantages of interstate trade, and his treatment of the historical trajectory of and future prospects for interstate order. Here I want to focus only on two places in Book One of the *Wealth of Nations* where this approach is especially evident: the division of labor and the price system.

Smith of course begins the book, as we have already had occasion to note, with an account of the advantages of specialized labor. Indeed it is precisely the division of labor, he makes clear in his first chapter, that occasions the "universal opulence" extending to "the lowest ranks of the people," and thus establishes the superiority of commercial society to its rivals (WN 1.1.10). But Smith's interest in the division of labor owes not only to the remarkable alleviation of poverty that it makes possible, but also to the way in which it achieves these remarkable ends. On this front, Smith presents the division of labor as a coordination principle that makes possible the synthesis of the efforts of a great number of dispersed, discrete agents in a way that replicates his accounts of the coordination mechanisms present in his studies of science and language and ethics.

Smith begins his account of the division of labor with the famous example of the pin factory. His utilization of this example is itself an attempt to make evident to spectators the connections between complex systems that too often aren't apparent given the limitations of sight itself. A pin factory, that is, is a phenomenon that can be seen at a glance:

> Those employed in every different branch of the work can often be collected into the same workhouse, and placed at once under the view of the spectator. In those great manufactures, on the contrary, which are destined to supply the great wants of the great body of the people, every different branch of the work employs so great a number of workmen, that it is impossible to collect them all in the same workhouse. We can seldom see more, at one time, than those employed in one single branch. Though in such manufactures, therefore, the work may really be divided into a much greater number of parts, than in those of a more trifling nature, the division is not near so obvious, and has accordingly been much less observed. (WN 1.1.2)

Smith here uses the pin factory to help us "see" the unified system that otherwise might well go unnoticed given the great dispersal of the agents participating in the coordinated process. In this sense, the pin factory enables us to catch a glimpse of the analogous but much more complex and much less readily apparent coordination of international labor necessary to produce even such simple commodities as that woolen coat of the worker, which, "as coarse and rough, as it may appear" is in fact "the produce of the joint labor of a great number of workmen" (WN 1.1.11).[23] And it

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[23] I'm grateful for conversations with Samuel Fleischacker for helping me to appreciate this aspect of Smith's account.

is this capacity to enable the unconscious coordination and collaboration of dispersed agents in the production of necessities of life that renders the commercial system of such wonder to Smith, for indeed, "without the assistance and cooperation of many thousands, the very meanest person in a civilized country could not be provided" with life's necessities (WN 1.1.11).

A second foundational aspect of Smith's political economy in Book One of the *Wealth of Nations* that exhibits this same pattern of coordinating dispersed actors is the price system. Smith, as is well known, regards prices as signals in a complex system that gravitates toward a natural price, itself of course famously determined by the quantity of labor that has been put into the production of the commodity; and thus Smith's notorious claim, so important to Marx, that labor is "the only universal, as well as the only accurate measure of value, or the only standard by which we can compare the values of different commodities at all times and at all places" (WN 1.5.17; cf. WN 1.5.1).[24] What is important here for our purposes is less the accuracy or inaccuracy of the labor theory of value than Smith's concern to define a principle that unifies all of these phenomena into a common "standard" which makes possible the coordination of dispersed and discrete data:

> The natural price therefore, is, as it were, the central price, to which the prices of all commodities are continually gravitating. Different accidents may sometimes keep them suspended a good deal above it, and sometimes force them down even somewhat below it. But whatever may be the obstacles which hinder them from settling in this center of repose and continuance they are constantly tending towards it. (WN 1.7.15).

Smith would repeat the claim soon afterward, insisting that "the market price of every particular commodity is in this manner continually gravitating, if one may say so, towards the natural price." This observation itself forms the foundation of one of his most crucial normative claims — namely that it is largely "particular regulations of police" that "keep up the market price for a long time together, a good deal above the natural price" (WN 1.7.20). But again, what matters here is how Smith's theory of the natural price reflects his consistent concern to show how multiplicities of data can be synthesized into a single and coherent system.

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[24] For a helpful recent overview, see Nerio Naldi, "Adam Smith on Value and Prices," in *The Oxford Handbook of Adam Smith*, ed. Christopher Berry, Maria Pia Paganelli, and Craig Smith (Oxford: Oxford University Press, 2013), esp. 293–98. On the connection with Marx, see esp. Ronald L. Meek, *Smith, Marx, and After: Ten Essays in the Development of Economic Thought* (London: Chapman and Hall, 1977), 6–8; and Spencer J. Pack, "Adam Smith and Marx," in *Oxford Handbook*, esp. 527–28.

VI. Conclusion

Adam Smith has, and will likely continue to be, seen as a quintessential man of the Enlightenment. He certainly was a polymath, but he was hardly a dilettante. His inquiry into multiple diverse substantive fields was itself unified by a constant commitment to uncovering connecting and unifying principles within each of these fields. Moreover, he employed the techniques of pattern detection that he practiced in each of these inquiries to the task of generating new insights into new fields of inquiry, including economics. In so doing, Smith not only distinguished himself as an early practitioner of what we today identify with PPE, but he also provides a useful point of reference for those doing PPE today. The political and economic and philosophical questions faced by today's practitioners of PPE of course go beyond the substantive questions Smith faced in the eighteenth century, and thus he offers us no pat answers to today's substantive and methodological questions. But what his example does offer is a means of describing the transition from more traditional forms of disciplinary inquiry to PPE. Smith's disciplinary inquiry, as we have seen, articulates synthetic associations that serve to clarify the relationship between various discrete pieces of data. But Smith also goes another step, exporting these associations to other fields in a way that helps to illuminate cognate questions in these fields. In this second step lies Smith's transition from disciplinary inquirer to practitioner of an incipient form of PPE, and attending to his example can provide today's practitioners of a more advanced form of PPE one way of demarcating their debts to and differences from specialized inquiries in PPE's cognate fields.

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