Those who have handled sciences have been either men of experiment or men of dogmas. The men of experiment are like the ant: they only collect and use; the reasoners resemble spiders, who make cobwebs out of their own substance. But the bee takes a middle course; it gathers its material from the flowers of the garden and of the field, but transforms and digests it by a power of its own. Not unlike this is the true business of philosophy; for it neither relies solely or chiefly on the powers of the mind, nor does it take the matter which it gathers up from natural history and mechanical experiments and lay it up in the memory whole, as it finds it; but lays it up in the understanding altered and digested.—Francis Bacon, Novum Organum
It has been said of George Henry Lewes that he "represented perhaps the more effervescent, more eccentric, and yet also the more truly philosophical aspects of the mid-Victorian mind." A single chapter cannot do full justice to the breadth of Lewes's thought: he was a literary critic, a novelist, a playwright, an editor, a physiologist, a psychologist, a philosopher, an historian of ideas; a true Victorian polymath. What little attention has been paid to Lewes by previous scholars has tended to center on his relationship with George Eliot, or on his role as literary critic and man of letters. But Lewes viewed himself preeminently as a philosopher of science. My focus here will be on Lewes's earlier philosophical work, particularly in the field of psychology; those aspects of his intellectual biography that link him most closely with this Victorian circle.

Lewes called his final and most ambitious project, *Problems of Life and Mind* (5 vol., 1874-79), his "key to all Psychologies." Therein, he attempted to resolve "the long debates respecting the true position of Psychology among the sciences," within a continuum of ideas from the 1840s and 1850s, freely acknowledging his debts to Comte, Mill, and Spencer as the thinkers with whom he was "most in agreement." As we have seen, Lewes was an early disciple of Mill and Comte; but Herbert Spencer was his friend and intellectual equal. This chapter will establish some of the early sources of Lewes's and Spencer's ideas, and chronicle the path of their mutual intellectual development during the decade of the 1850s, their lively and reciprocal interplay of ideas. As with so many in this circle, it is often difficult to determine the exact origin of an idea. Spencer's greater philosophical fame has tended to obscure Lewes's own important contributions to nineteenth-century intellectual history—and to Herbert Spencer's intellectual history.

Lewes's debts to Mill and Comte notwithstanding, Johann Wolfgang von Goethe was his most-admired mentor. In his
1852 essay on "Goethe as a Man of Science" (the germ of Lewes's classic biography of Goethe), Lewes quotes Goethe speaking of a life "passed in creating and observing, in synthesis and analysis: the systole and diastole of human thought were to me like a second breathing process—never separated, ever pulsating." The dual strands of philosophy and biology, synthesis and analysis, general and particular, span the decades of Lewes's intellectual development. Twenty-four years later, in an essay entitled "Materialism and Spiritualism," which summarizes his work-in-progress on Problems of Life and Mind, Lewes would remember Goethe's words: "Analysis and synthesis are the systole and diastole of science." It was Lewes's lifelong ambition to effect the perfect fusion of part and whole, that individuation in which each part is uniquely particular and yet fully subsumed within a greater unity. Like Herbert Spencer, Lewes would find the key that would unlock the apparent paradox of the many in the one, the one in the many, in evolutionary biology.

But in his search for this delicate balance, it has been Lewes's fate to be both oversimplified and misinterpreted. For example, Rosemary Ashton has difficulty reconciling Lewes's early enthusiasm for Hegel's aesthetics with his later embrace of Comte's positivism. She resorts to a simple dichotomy: "From 1843 on, Lewes ranged himself on the side of analysis, not synthesis in criticism, just as he stood for empiricism rather than a priorism in philosophy." Similarly, Robert M. Young is incorrect in his interpretation of Spencer's debt to Lewes: "Just as the reading of Lyell's refutation of Lamarck turned Spencer towards belief in inheritance of acquired characteristics, the reading of Lewes's positivist polemics seemed to have turned him towards metaphysics." In fact, Lewes was not an idealist turned empiricist; nor was he a positivistic polemicist who drove his friend to metaphysics.

To be fair, Lewes himself is partially responsible for the confusion: in the Biographical History of Philosophy, he argued emphatically for the death of metaphysics at the hand of positivistic natural science. But it should be clear from my discus-
sion of Comte in chapter 1 that positivism is not simply to be allied with science in opposition to metaphysics. It occupies a middle ground between the two. Other critics have more correctly perceived the similar mediating tendencies in Lewes's work, but have incorrectly located their philosophical counterparts. In his essay on “The Empirical Metaphysics of George Henry Lewes,” Jack Kaminsky divides nineteenth-century English philosophy into the “opposing tendencies” of “empirical positivism” (Mill and Spencer) and its “philosophic reaction” (exemplified in “Carlyle’s transcendentalism, Newman’s Catholicism, and Green’s idealism”). Kaminsky correctly argues that Lewes sought to “heal the bifurcation in philosophy, [urging] that the study of metaphysical problems might be pursued with an empirical rather than a transcendental method.” But Mill and Spencer themselves share many fundamental similarities with Lewes. Kaminsky considers Lewes “one renegade positivist,” crying alone in a wilderness of skeptics and Roman catholics, biologists and German idealists. In reality Lewes was far from solitary in his pursuit of a middle ground. Kaminsky ruefully concludes that “the full import of Lewes’s views on metaphysics was completely lost to nineteenth-century philosophers.” Although it may be true that his ideas were not influential within the academy, the interconnections between Lewes and an important circle of Victorian minds were rich and pervasive.

One might expect that George Henry Lewes would have given a favorable review to Atkinson’s and Martineau’s *Letters on the Laws of Man’s Nature and Development* in his three “Literature” columns in the *Leader* devoted to that subject in February and March 1851. Although Lewes did claim the *Letters* worthy of “serious discussion” and acknowledge them the “result of honest, independent thinking,” he was otherwise highly critical. One immediate source of Lewes’s disapprobation is suggested by his intolerance of phrenological faddism, mesmeric quacks, and pseudo-scientific notions of force—and indeed, “the mesmeric and clairvoyant revelations” of the pair do “excite [his] ridicule.” But unexpectedly, Lewes is more
critical of what could loosely be termed the theological aspects of the book than he is of its dubious scientific underpinnings: "We are among those who must unequivocally dissent from the opinions it ushers in": "the open avowal of Atheism and denial of Immortality." Lewes here sides with Froude and those critics who were offended by what they considered a dangerous materialism: "Reason is daylight; by it we see all that can be seen in daylight; but there are realities the perception of which daylight destroys, and among these are the stars." These are hardly the words one might expect from a clear-eyed empiricist.

George Henry Lewes and Harriet Martineau have more in common than Lewes grants (as chapter 3 demonstrates). Although he misreads Martineau as a simple atheist, this misreading is highly illuminating of Lewes himself: "The soul is larger than logic," he argues; "there is . . . a logic of emotions, and a logic of instincts as well as a logic of ideas." George Henry Lewes, amateur scientist and positivist, five years after condemning metaphysics in the Biographical History and on the eve of his study of Comte, speaks in strikingly idealist terms: "We are not Kantists, but detect in his system the indistinct expression of that consciousness of a transcendental faculty we feel within ourselves." Although Lewes was never an orthodox religious believer, this transcendental streak was strong in him from the start. In his 1876 essay on "Spiritualism and Materialism," Lewes indulges in a rare moment of autobiographical reminiscence:

There was one brief period when I was very near a conversion. The idea of a noumenal Mind, as something distinct from mental phenomena—a something diffused through the Organism giving unity to Consciousness, very different from the unity of a machine, flashed upon me one morning with a sudden and novel force, quite unlike the shadowy vagueness with which it had heretofore been conceived. For some minutes I was motionless in a rapt state of thrilled surprise. I seemed standing at the entrance of a new path, leading to new issues with a vast horizon. The convictions of a life seemed tottering. A tremulous eagerness, suffused with the keen light of discovery, yet mingled with cross-lights and hesita-
The heart and the brain, stirred me; and from that moment I have understood something of sudden conversions. There was, as I afterwards remembered, no feeling of distress at this prospect of parting with old beliefs. Indeed it is doubtful whether sudden conversions are accomplished by pain, the excitement is too great, the new ideas too absorbing. The rapture of truth overcomes the false shame of having been in error. The one desire is for more light.\textsuperscript{11}

Lewes's self-portrait here has much in common with Martineau's own rhapsodic account of her conversion to mesmerism, with its strong overtones of religious experience mingled with scientific conviction. Characteristically, Lewes asks for the "light" of intellectual illumination in the midst of this most emotional moment.

A brief scientific essay, "The Heart and the Brain," which Lewes wrote for the \textit{Fortnightly Review} in 1865, provides a theoretical analogue to his personal account of the interworkings of heart and brain. It is important to remember that for Lewes, as for Atkinson and Martineau, "transcendental faculties" were also biological phenomena. Much of "The Heart and the Brain" is, quite literally, a biological discussion of those two organs. "Heart and Brain are the two lords of Life," Lewes opens. But he immediately suggests that this statement may also be read figuratively: "In the metaphors of ordinary speech and in the stricter language of science, we use these terms to indicate two central powers, from which all motives radiate, to which all influences converge."\textsuperscript{12}

The phrenologists had claimed that the brain was the organ of the mind, and were branded godless materialists. Lewes seems at first to disagree with phrenology, condemning as unscientific "the modern doctrine respecting the brain . . . as the exclusive organ of sensation." Lewes has come full circle within physiological psychology, "to appreciate the truth . . . in the ancient doctrine respecting the heart as the great emotional organ." But instead of repudiating the materialism of the phrenologists, Lewes actually enlarges their claims. The heart is physiologically the "great emotional center": "As the central organ of the circulation [it] is so indissolubly connected
with every manifestation of Sensibility, and is so delicately sus-
ceptible to all emotional agitations." Heart does not replace
brain as center; both are simply parts of a greater whole, "the
vital activities of the whole organism." Read figuratively (as
Lewes invites), the "two lords of life," each equal in power yet
interdependent, are the emotions and the intellect. Lewes in-
sists that metaphor and fact, poetry and science, mirror one an-
other. The transcendent logic of emotions has its correspond-
ent physiology.

In this context I turn back to the 1840s, when Lewes was in-
troduced to the study of philosophy by the work of Benedict
Spinoza, a seventeenth-century Dutch philosopher who mech-
anized human passions in the form of geometrical proposi-
tions, and argued for the unification of mind and matter as
manifestations of a single substance. In the philosophy of Spi-
noza, Lewes was to find both a solution and a dilemma: the
prototype of his ideal philosophic temperament, and what he
saw as the greatest obstacle to any philosophical endeavor.

Whether by fortunate coincidence or careful design, George
Henry Lewes was asked to contribute to the "S" volume of the
Penny Cyclopaedia in 1842; his task: to define the terms "Sub-
ject, Subjective," "Substance," and "Spinoza." His trip to
Germany in 1838 had fueled Lewes's early fascination with
German idealist philosophies; but even in these short entries,
among his earliest published writing, we can see the character-
istic bias of Lewes's mind. Lewes's definition of "subject" is
inseparable from its polar antithesis: "The very subject itself
(the mind) can become an object by being psychologically con-
sidered." In his definition of "substance," Lewes similarly
insists on a two-sided vision, the equivalence of subject and
object: "The stronghold of Idealism is consciousness. In Con-
sciousness there is nothing but transformations of itself—no
substance, no external world is given. . . . But consciousness
is equally the stronghold of Realism; for we are as conscious
that what we call substance, or the world, is not ourselves, and
does not depend on us, and is a distinct existence."

Spinoza is identified with both subject and substance,
closely linked with the idealist school: “All the German philosophers, from Kant downwards, owns [sic] him as its master.”16 Lewes confessed elsewhere that he considered Spinoza’s “the grandest and most religious of philosophies.”17 The continuity of Lewes’s interest in Spinoza is evident in his return to the philosopher in 1843 and again in 1866. In an autobiographical moment in the 1866 *Fortnightly Review* essay, Lewes travels to a small tavern in Red Lion Square in the mid-1830s, “where the vexed questions of philosophy were discussed with earnestness, if not insight,” by young George, not yet twenty, and a mixed group of speculatively-minded friends. Supreme among them was a German Jew, a watchmaker named Cohn: “He remains in my memory as a type of philosophic dignity”; “I venerated his great calm intellect. He was the only man I did not contradict in the impatience of argument,” Lewes recalls. It was Cohn who tutored the group weekly in Spinoza. Lewes’s intense feelings for Spinoza were inextricably mixed with those for his mentor, Cohn: “I habitually think of him in connexion with Spinoza, almost as much on account of his personal characteristics, as because to him I owe my first acquaintance with the Hebrew thinker. My admiration for him was of that enthusiastic temper which in youth we feel for our intellectual leaders.”18 Lewes’s essay on “Spinoza’s Life and Works” in the *Westminster Review* (1843) came at a time when Spinoza was not translated into English, and was generally acknowledged as a ground-breaking attempt to bring this difficult philosopher to the attention of the English reading public.19 I consider this essay the cornerstone of Lewes’s early thought; it epitomizes both his characteristic frame of mind and his central intellectual dilemma at the time, to be resolved through his friendship with Herbert Spencer in the early 1850s.

Lewes’s attraction to Spinoza is fraught with a most interesting tension: Lewes venerates Spinoza as a religious philosopher, and writes essays on the man at both ends of his career. Yet Lewes’s early insistence in the *Biographical History* on the objective, psychological view, in contradistinction to the sub-
jective, philosophical one, his assertion that consciousness is not all—this seems in conflict with Spinoza, by Lewes's own definition the forefather of Kantian idealism. Ashton argued that Lewes's early flirtation with German romanticism and a priori idealism gave way to the later empiricism of the Biographical History. And indeed that book does seem to support a reading of Lewes as an a posteriori empiricist. Lewes's fundamental disagreement with Spinoza in 1843 becomes the germ of his central argument throughout the 800-page history. The “fundamental error of Spinozism,” Lewes writes, will be rectified by the objectivity of the new positivist psychology:

It is our firm conviction that no believer in Ontology, as a possible science, can escape the all-embracing dialectic of Spinoza. To him who believes that the human mind can know noumena, as well as phenomena—who accepts the verdict of the mind as not merely the relative truth, but also the perfect, absolute truth—we see nothing, humanly speaking, but Spinozism as a philosophical refuge. . . . If you do not believe that your knowledge is absolute, and not simply relative, you have no sort of ground for belief in the possibility of ontology.

Lewes takes the latter position. In the Biographical History, the error of the ontologist becomes for scientific psychologist Lewes the fundamental error of all philosophers: the notion that the mind can intuitively, clearly and distinctly, know Truth, that Ideas exist independent of experience. “Spinozism or Skepticism?” Lewes demands; “choose between them, for you have no other choice.”? But if Lewes was not a Spinozist, was he a Skeptic? I will look to both Lewes's 1843 essay and Spinoza's Ethics, and suggest two possible solutions to this dilemma: first, in the dialectic that Lewes sets up in that essay between the idealist, subjective Spinoza and the man Lewes considers his realist, objective polar antithesis, Francis Bacon; second, and more intriguing, in the philosophy of Spinoza itself, which in many ways attempts to reconcile antitheses in ways directly relevant to this Victorian circle.

“Spinoza's Life and Works” provides ample documentation of Lewes's continued attraction to the great philosopher since
his student days in Red Lion Square. But Lewes's essay adopts a peculiar stratagem, given its ostensibly admiring stance towards Spinoza. Once Lewes has outlined Spinoza's life, he shifts unexpectedly to Francis Bacon, as a counterpoint to Spinoza: "From Bacon [comes] the whole school of scientific men, the materialists, Scotch physiologists, and political economists," in contradistinction to the "Cartesian" school, in which Lewes includes Spinoza, Kant, and Hegel. After Lewes's denunciation of the fundamental error of Spinozism, Bacon arises as the hero of a new, empirical psychology, which claims to escape the subjective boundaries of the reflective consciousness: "We might have gone on baffled, yet persisting, seeking the unknowable, and building palaces on air . . . had not Bacon arisen to point out that the method men were pursuing was not the path of transit to the truth, but led only to a land of chimeras." Bacon heralds the new spirit of Positive Science, and it is this nineteenth-century Baconianism, in opposition to the "arachnae philosophers of Germany," that Lewes praises throughout the *Biographical History of Philosophy.*

Yet to suggest that he simply abandoned Spinoza at this point belies the intensity of Lewes's fascination with the Dutch philosopher. Lewes not only returned to the subject of Spinoza in 1866, he also encouraged the earliest efforts to translate Spinoza into English. In January 1843 George Eliot had borrowed Spinoza's works from R. H. Brabant (who had been introduced to Spinoza by no less than Samuel Taylor Coleridge himself, in 1815–16), and began a translation for her friend Charles Bray—probably the *Tractatus,* but also possibly "De Deo," the opening of the *Ethics.* In February 1847 Eliot returned Brabant's copy of the philosopher's Latin works and borrowed publisher John Chapman's. Cara Bray wrote to Sara Sophia Hennell in the spring of 1849 of Eliot's "great desire to undertake Spinoza." It was to her translation of the *Tractatus* that Eliot turned while nursing her father through his final illness: "It is such a rest to her mind," Cara wrote. But in the grief and aimlessness of those months following Robert Evans's
death in May 1849, Eliot and Spinoza were "divorced"; though she agreed grudgingly to uphold her bargain with Chapman for a translation of the *Tractatus Theologico-Politicus*, to be published in conjunction with an American translation of the *Ethics*: "If you are anxious to publish the translation in question I could, after a few months, finish the *Tractatus Theologico-Politicus* to keep it company—but I confess to you, that I think you would do better to abstain from printing a translation." Grief may have dampened Eliot's energies, but her discouragement with the translation also took a more complex form: "What is wanted in English is not a translation of Spinoza's works, but a true estimate of his life and system. After one has rendered his Latin faithfully into English, one feels that there is another yet more difficult process of translation for the reader to effect, and that the only mode of making Spinoza accessible to a larger number is to study his books, then shut them and give his analysis."  

Spinoza was surely not the least of that community of intellectual interests that Eliot and Lewes found when they met and fell in love between 1851 and 1854; when they eloped to Germany in 1854, Eliot began a translation of the *Ethics* while Lewes labored on his *Life of Goethe*, and they returned to England to see both books through publication. In October 1855 an announcement in Lewes's *Goethe* proclaimed that "Spinoza will ere long appear in English, edited by the writer of these lines," as a joint product of George Eliot and George Henry Lewes. Such was not to be: Lewes's agreement with publisher Bohn for his edition of Eliot's translation ended in acrimonious financial squabbles between Lewes and Bohn during the early weeks of June 1856.  

George Eliot's interest in the *Tractatus* was clearly of a piece with her translation of the German rationalist critics Strauss and Feuerbach. Spinoza is "'Vater der Speculation unserer Zeit; er ist auch Vater der biblischen Kritik,'" Strauss himself wrote. It was Lewes who turned Eliot to work on the *Ethics*, a book more directly relevant to my discussion here. For in the *Ethics* itself, we find many clear reasons for Spinoza's strong
appeal to the frame of mind shared by this Victorian circle.

A brief outline of the basic argument of the *Ethics* is useful at this point. Descartes introduced dualism into Western philosophy: mind and body are partners, in a reciprocal, causal relationship (and Spinoza was a Cartesian, albeit a critical one, for half of his philosophic life). But Spinoza perplexingly defies either category, monist or dualist. His theory of the relation between mind and body is a dualism of sorts: mind and body coexist amicably; yet unlike Descartes, Spinoza posits no causal relationship between them. There is a material event for every body event, but body does not *cause* mind, nor mind, body; nor do they interact, as in Descartes. Mind and body are two aspects of the identical *substance*, which informs the entire universe: "Substance thinking and substance extended are one and the same substance." This substance, Spinoza calls God. This God bears a superficial resemblance to the Judeo-Christian God: He is eternal, infinite, omnipotent. But just as Spinoza resists the dualism of mind and body, he denies the duality of God and His creation, the world. Spinoza's God did not make the world; the world *is* God, one substance, immutable. God's infinity necessitates his unity with the cosmos.

Furthermore, His perfection results in a deterministic universe; everything functions according to universal and necessary laws: "Nothing in the universe is contingent, but all things are conditioned to exist and operate in a particular manner by the necessity of the divine nature." If things could be other than they are, then God would not be perfect: "God's will cannot be different from God's perfection." Spinoza rejects any notion of divine teleology, argument from design, God's "purposes" in the world: "Nature has no particular goal in view . . . final causes are mere human figments."

Spinoza's method in the *Ethics* follows closely upon his metaphysics. The entire treatise is written in the form of a series of geometrical propositions: "These effects follow as necessarily from the said emotion, as it follows the nature of the triangle, that the three angles are equal to two right angles." Minds are subject to the same laws as bodies: "The laws of na-
ture have regard to nature’s general order, whereof man is but a part. I mention this, in passing, lest any should think that I have wished to set forth the faults and irrational deeds of men rather than the nature and properties of things. For . . . I regard human emotions and their properties as on the same footing with other natural phenomena.”

Herein the link between Spinoza’s metaphysics and his ethics: the mind, consciousness, can be studied in the same manner as the body, since it is part of the same substance, subject to the same necessary laws. It would seem that the logical result of this would be a pure form of psychological determinism. How can it make sense to talk of ethics, if all mental behavior is necessitated by invariable laws? Yet just as Spinoza wishes to argue for the coexistence of mind and body, his philosophy encompasses freedom as well as necessity.

In the *Ethics* Spinoza presents a three-tiered theory of knowledge. The first level at which man arrives is that of confused ideas. Man “knows” in a purely mechanical, passive, fragmentary way. He is at the mercy of both external events or sensory impressions and his own unregulated emotions: “We are in many ways driven about by external causes, and . . . like waves of the sea driven by contrary winds we toss to and fro unwitting of the issue of our fate.” This Spinoza calls “bondage.” At the second level, man arrives at adequate ideas, exercising his powers of reasoning in order to understand the causal relationships among things. In the first stage, he sees only particulars; now he is capable of generalizations. This is as far as most of us, unendowed with the philosopher’s intellect, can get. Understanding brings man a kind of moral liberty: “The more we endeavour to be guided by reason, the less do we depend on hope; we endeavour to free ourselves from fear, and, so far as we can, to dominate fortune, directing our actions by the sure counsel of wisdom.”

But there is a third, highest stage: “scientia intuitiva,” intuitive knowledge. It is a mystical state, where man arrives at the true “love of God.” But what is God in Spinoza’s universe?—simply the Unity of all that is particular, individual:
"The more we understand particular things, the more do we understand God." At this third stage of knowledge man fully understands each particular thing in the order of its general relation to the cosmos; he apprehends the full harmony of the universe in a simultaneous transcendentalism and descendent-alism. In this state man does not rise above human passions, but rather incorporates them with a visionary reason; intellect and emotion are at one. "This love or blessedness is in the Bible called Glory, and not undeservedly. For whether this love be referred to God or to the mind, it may rightly be called acquiescence of spirit." Little wonder that Spinoza would attract the philosopher who sought to "reduce all knowledge into harmony," and that his earliest champion in England was Samuel Taylor Coleridge.

The above summary, although it hardly does justice to the complexities of a profound and difficult philosophy, should serve to illuminate some of the sources of Spinoza's powerful attraction for the Victorian intellectual. Spinoza clearly makes way for a scientific psychology, in accordance with the laws of nature. The psychology of Hartley and Priestley has been called "a kind of bargain-basement Spinozism." I draw attention to the little-known and fascinating fact that the first published translator of Spinoza into English was Dr. Robert Willis, a practicing phrenologist! Spinoza's single "substance," and the pantheism that is its product, suggest many parallels with Charles Bray's and Harriet Martineau's "force," which similarly partakes of the nature of both mind and body. The necessitarian implications of Spinoza's universal causation and his faith in the qualified liberty that reason can effect resonate clearly with the discussion of necessitarianism in chapter 3. And Spinoza's "scientia intuitiva" is remarkably similar to the systole and diastole of analysis and synthesis with which this chapter began, that desire to see the many in the one, the one in the many, which is the common ground of all these Victorian thinkers.

Leslie Stephen, writing on Spinoza in 1880, summarizes the preceding decades of English response when he suggests that
Spinoza "has been defended as he has been attacked from the most opposite points of view. The materialist and the idealist; the dogmatist and the sceptic; the mystic and the man of science have each found in him something congenial, and with equal ease something antagonistic." Spinoza's appeal to the mystic who was also a man of science would be powerful; his balance of necessitarianism and ethical idealism, rationalist and visionary, intellect and emotion, irresistible to a Victorian sensibility.

And yet we must not forget "the fundamental error of Spinozism" that so troubled Lewes and necessitated the Baconian corrective. This error becomes all the more consequent in light of the otherwise powerful seductions of Spinoza's philosophy. It obviously troubled Lewes to the extent that it sparked an 800-page disquisition on what Lewes considered the failures of the ontological method: "If you do not believe that your knowledge is absolute, and not relative, you have no sort of ground for belief in the possibility of ontology." But it is in error to conclude from this statement that George Henry Lewes was a relativist skeptic. It would be truer to say that Lewes in fact yearned for absolute knowledge; but was unable to accept the Absolute when it was grounded—as it was for Spinoza and the arachnae philosophers of Germany—purely on the subjective basis of individual consciousness. What Herbert Spencer was to give George Henry Lewes in *The Principles of Psychology* was a key to all mythologies, a ground for the Absolute that was based upon sense experience; the grand Spinozistic synthesis of mind and body, rewritten in Baconian terms to fit a Victorian frame of mind.

**II. THE FOUNDATIONS OF A FRIENDSHIP—HERBERT SPENCER: SOCIAL STATICS (1851)**

In his journal for January 1859, George Henry Lewes looked back upon the momentous beginning of his lifelong friendship with Herbert Spencer in the spring of 1850:
FOUNDATIONS OF A FRIENDSHIP

I owe him a debt of gratitude. My acquaintance with him was the brightest ray in a very dreary wasted period of my life. I had given up all ambition whatever, lived from hand to mouth, and thought the evil of each day sufficient. The stimulus of his intellect, especially during our long walks, roused my energy once more, and revived my dormant love of science. His intense theorizing tendency was contagious, and it was only the stimulus of a theory which could then have induced me to work.—I owe Spencer another, and a deeper debt. It was through him that I learned to know Marian—to know her was to love her—and since then my life has been a new birth.39

The late 1840s had been lean years both personally and intellectually for Lewes, as his wife Agnes entered into a liaison with his best friend and coeditor of the Leader, Thornton Hunt, and Lewes turned from philosophical and scientific subjects to piecework literary criticism and two rather dreadful novels, Ranthorpe (1847) and Rose, Blanche, and Violet (1848)40 But the stimulus that Spencer offered Lewes was far more than simply a contagious penchant for theorizing. Lewes found in Herbert Spencer the germ of "a theory" that was to flourish in the rich soil of their mutual discourse on contemporary scientific ideas from 1850-55, bursting forth in full bloom in Spencer's Principles of Psychology; a resolution to the intellectual stalemate of the 1840s reflected in Lewes's ambivalence towards Spinoza.

Herbert Spencer's first book, Social Statics, originated in a series of twelve letters to The Nonconformist in 1842. In the spring of 1850, when he was near to finishing the study, Spencer met Lewes: "In the course of our walk home from a soirée, a conversation between us produced mutual interest." The acquaintance that began on that walk was renewed a year later as a result of Lewes's review of Social Statics in The Leader in March and April 1851: "When Social Statics came out he spoke highly of it, both privately and in public . . . and naturally when we met again, a further step was taken towards intimacy. As we had many tastes and opinions in common, the intimacy grew rapidly."41 The manner in which Lewes announced his
upcoming review of *Social Statics* in the *Leader* suggests in no uncertain terms the intensity of his intellectual excitement over this "profound and suggestive work": "We remember no work on ethics since that of SPINOZA to be compared to it in the simplicity of its premises, and the logical rigor with which a complete system of scientific ethics is evolved from them. This is high praise; but we give it deliberately."42

But before pursuing *Social Statics* in more detail, to see just what Lewes found in this Victorian Spinoza that so excited him, I should like to turn first to the "deeper debt" of mutual acquaintance with young Marian Evans, who arrived fresh from the provinces as the new assistant editor of the *Westminster Review* on 29 September 1851. Among the Friday guests at 142 Strand, George Eliot writes Charles Bray on October 4 of that year, was "a Mr. Herbert Spencer who has just brought out a large work on 'Social Statics,' which Lewes pronounces the best book he has seen on the subject. You must see the book if possible."43 The previous August Eliot had been introduced to Spencer while on a London visit to the Crystal Palace with the Brays, and the friendship flourished when they met again soon after Eliot's permanent move to London. By April 1852 Spencer was writing to friend Edward Lott: "the most admirable woman, mentally, I ever met."44

"We have agreed that we are not in love with each other," George Eliot avows that same month. It is but a "deliciously calm new friendship," a "delightful camaraderie" only, she explains, despite the fact that the world incorrectly "sets [them] down" as engaged, she protests to Charles Bray on 14 June 1852.45 But three passionate love-letters, written during July 1852 and only recently published after their long incarceration in the British Museum, tell quite a different story, as George Eliot confesses her devotion to Spencer—"those who have known me best have always said that if I ever loved any one thoroughly my whole life must turn upon that feeling, and I find they said truly"—is spurned as a lover—"No credit to me for my virtues as a refrigerant"—but reconciles herself to an offer of friendship—"Let us, if you will, forget the past,
except in so far as it may have brought us to trust in and feel for each other. . . . I can promise you such companionship as there is in me, untroubled by painful emotions.”

And the intellectual intimacy did continue unabated; in mid-August Spencer was back with George Eliot at Broadstairs, discussing Mill’s Logic and his plans for the Principles of Psychology. “In physique there was, perhaps, a trace of that masculinity characterizing her intellect,” Spencer wrote in his Autobiography; but what Spencer considered a sexual liability, he found an intellectual asset: “Her philosophical powers were remarkable. I have known but few men with whom I could discuss a question in philosophy with more satisfaction. Capacity for abstract thinking is rarely found along with capacity for concrete representation, even in men; among women, such a union of the two as existed in her has, I should think, never been paralleled.”

Any sympathy we might feel for George Eliot should quickly be tempered by the fact that the witty and loving George Henry Lewes stood ready to replace Spencer in Eliot’s affections. Unlike Spencer, Lewes considered Eliot’s intellect worthy of love as well as admiration; and he recognized the sensitive human heart beneath that “masculine” brain (and face). The following summer it was he who was now vacationing at Broadstairs with the Westminster’s female editor, on considerably more romantic terms. By autumn Spencer was aware of the situation, and rather ungraciously relieved to pass her on to his friend.

Romance had little adverse effect on friendship for the three. Eliot had met both men in the previous autumn, several months after Lewes’s favorable review of Social Statics. The two quickly expanded their new-found friendship to include her. From the start it was an intellectual ménage à trois, as Spencer and Lewes frequently stopped by Marian Evans’s lodgings at John Chapman’s, just around the corner from the Leader’s offices. During 1853–55 Eliot zealously read proof of Lewes’s Comte, read the manuscript of his Life of Goethe, took dictation of his Leader essays, and filled in with an occa-
sional column herself.\textsuperscript{49} She unquestionably shared in the general intellectual \textit{camaraderie} between Lewes and Spencer during these years. The close friendship among the trio continued into the 1870s, as Spencer often took advantage of his standing invitation to the Priory: “Our talk, if not very often enlivened by witticisms, always contained a mixture of the gay with the grave: good stories and a little \textit{badinage} breaking our discussions, which were generally quite harmonious; for there were but few points on which we disagreed.”\textsuperscript{50} On her part George Eliot was always slightly amused by Spencer’s furious system-making: “I went to Kew yesterday on a scientific expedition with Herbert Spencer, who has all sorts of theories about plants—I should have said a \textit{proof}-hunting expedition. Of course, if the flowers didn’t correspond to the theories, we said, \textit{‘tant pis pour les fleurs!’}”—this to Sara Sophia Hennell in June 1852, at the peak of her romantic infatuation with Spencer.\textsuperscript{51} Yet her final words on the subject of Herbert Spencer, twenty-eight years later (just two and a half weeks before her death) were admiring: “He has so much teaching which the world needs.”\textsuperscript{52}

It will be my task in the remainder of this chapter to suggest what it was in Spencer’s teaching that George Eliot and George Henry Lewes considered to be so necessary. To that end I turn to \textit{Social Statics}, to see what Lewes and Eliot would have found there for the foundation of the intellectual intimacy with Spencer that sprang up so quickly and so intensely for both of them.

J. D. Y. Peel succinctly summarizes the diminished reputation of Herbert Spencer: “Posterity is cruellest to those who sum up for their contemporaries in an all-embracing synthesis the accumulated knowledge of their age.”\textsuperscript{53} Many twentieth-century scholars, appalled by the sheer volume of Spencer’s repetitious and abstract tomes, have been content to suggest vaguely that he is a quintessentially Victorian thinker, and then to turn with relief to the more readable prose of Mill or Carlyle or Ruskin. But Spencer was an immensely popular and influential writer in his own time. “Spencer’s paradoxi-
cal . . . combination of evangelical spirit and rationalist sub-
stance was peculiarly congenial to the mid-Victorians," Peel
writes; his "achievement was virtually the answer to the plea
which Coleridge had made years before: 'Socinianism moon-
light; Methodism a stove. O for some sun to unite heat and
light!'"54 In Social Statics George Henry Lewes found a Spi-
nozistic "sun" to unite the heat of passion with the light of
reason.

"I have been reading Bentham's works," Spencer notes in
1848, "and mean to attack his principles shortly, if I can get
any review to publish what will appear to most of them so
presumptuous."55 Presumption was the by-word of Herbert
Spencer's philosophizing. Spencer's immodest disagreement
with Bentham provided the germ of Social Statics. The first
section of the book's lengthy introductory chapter is entitled
"The Doctrine of Expediency," and Spencer unequivocally as-
serts from the outset that such a doctrine is "futile."56 The he-
donistic calculus of "the greatest happiness of the greatest
number" is inadequate on two interrelated counts: it fails to
take into consideration the individual, and it overlooks the
heart. "The standard of happiness is infinitely variable," 
Spencer objects; "To educe from the infinitely-ramified com-
plications of universal humanity, a true philosophy of na-
tional life, and to found thereon a code of rules for the obtain-
ment of 'greatest happiness,' is a task far beyond the ability of
any finite mind."57 Furthermore, these utilitarian philoso-
phers believe that such moral calculations are matter for pure,
logical reason. From the outset Spencer lets the reader know
that his philosophy is to be of another sort: "Should exception
be taken to the manifestations of feeling now and then met
with, as out of place in a treatise having so scientific a title; it
is replied that, in their present phase of progress, men are but
little swayed, by purely intellectual considerations." "Faith
not sight must be our guide," he continues.58

The reader will recall the Utilitarian underpinnings of
Charles Bray's Philosophy of Necessity. George Eliot recog-
nized the tension between Bray's and Spencer's ideas when she
provided Bray with a copy of Social Statics in March 1852: "I did not send you 'Social Statics' because I thought you would admire the book—far from it—but because you expressed a wish to have it." When she writes Bray on his Philosophy of Necessity in 1857, her objections to the book at that time follow lines similar to Spencer's attack on Utilitarianism in Social Statics:

In the fundamental doctrine of your book . . . you know that I agree . . . but I think it is very likely that I should be unable to agree with much that you say in relation to the religious ideas and the moral tendencies. . . . you appear to consider the disregard of individuals a lofty frame of mind. My own experience and development deepen every day my conviction that our moral progress may be measured by the degree in which we sympathize with individual suffering and individual joy.

The Utilitarians were closely allied with the association psychology of the eighteenth century, as James Mill and Jeremy Bentham, writing in the tradition of Gay and Hartley, argued that moral feelings were the result of experience, association, and reasoning. Herbert Spencer's counter to their philosophy comes from a contrary dogma, emphasizing the innate foundations of the human mind, which he loosely terms the "Shaftesbury School." The second half of his introduction, in juxtaposition to "The Doctrine of Expediency," is entitled "the Doctrine of the Moral Sense." Spencer was, of course, one of a long line of political moralists, including thinkers like Joseph Priestley and William Godwin, who had grounded their prescriptions in a divinely-implanted moral sense. This innate moral sense, unlike the calculations of the Utilitarians, speaks directly to "the religious ideas and the moral tendencies" that Eliot claimed as so essential in her letter to Bray.

George Henry Lewes's essay on "Hereditary Influence" (1856) clearly bears the imprint of Social Statics. Lewes provides a definition of the term "moral sense," clarifies his appeal to emotions over intellect, and places himself emphatically on the side of the angels (and Herbert Spencer):
One school of thinkers has energetically denied that we are born with any Moral Sense; another school has energetically affirmed that we are born with it. And of the two we think the latter are nearest the truth. It is certain that we are so organized as to be powerfully affected by actions which appeal to this "Moral sense," in a very different way from mere appeals to the intellect—the demonstration of abstract right or wrong; were it otherwise, the keenest intellects would also be the kindest and the justest.

Furthermore, continues Lewes, this moral sense is innate, not acquired: "This aptitude . . . varies not according to . . . intellect but according to . . . native tendencies in that direction."  

However, Herbert Spencer adds a distinctively Victorian twist to this eighteenth-century doctrine: for Spencer, the moral sense is not simply a philosophical abstraction, it is a phrenological organ. Spencer's argument in Social Statics is based on a philosophy in harmony with the phrenological view of man. Let me return to George Eliot's 1857 letter to Charles Bray, to emphasize that if there were grounds of disparity between Bray and Spencer, there was also important agreement on what Eliot called "fundamental doctrines": "that mind presents itself under the same condition of invariableness of antecedent and consequent." Both Bray and Spencer found in phrenology a would-be science of mind in accordance with the doctrine of universal causality, and believed that a scientific morality should be the product of a scientific phychology. "As with the physical, so with the ethical," writes Spencer in Social Statics; "A belief . . . is beginning to spread among men, that there is an indissoluble bond between cause and consequence, an inexorable destiny, a 'law that altereth not.'" What Spencer calls "beneficent necessity" rules in mind as well as matter, according to the principles of universal causation: mental laws "are like the laws of the universe—safe, inflexible, ever active, and having no exceptions." Spencer's lifework was dedicated to this notion of a fully scientific morality. So Herbert Spencer, like Charles
Bray, must make space for moral growth within the “inexorable destiny” of cause and effect.

The concept of a divinely-implanted moral sense is clearly one answer to this dilemma; but it makes an uneasy ideological bedfellow with inflexible universal law, however attractive it may seem as an antidote to Utilitarianism. And in fact Spencer is also critical of the Shaftesbury school for reasons antithetical to his attack on the Benthamites: “Confounding the functions of feeling and reason, they required a sentiment to do that, which should have been left to the intellect. . . . They were not right in assuming . . . instinct to be capable of intuitively solving every ethical problem submitted to it. To suppose this, was to suppose that moral sense could supply the place of logic.” Ultimately, the similarities between Bray and Spencer override their differences, as Spencer, like Bray, attempts to mediate between a science of mind and a system of ethics. If the Utilitarians eliminate emotion, the moral sense school attempts to do without reason. Spencer wants both: “Whilst the decisions of this moral sense . . . are inaccurate and often contradictory, it may still be capable of generating a true fundamental intuition, which can be logically unfolded into a scientific morality.” First articulated in Social Statics, this goal will be fully realized in The Principles of Psychology. There, Spencer argues for what he believes to be a truly scientific basis for intuitive truths, as the product of an evolutionary psychology.

In essence Social Statics is nothing less than Spencer’s attempt to synthesize two opposing schools of social theory: Shaftesbury’s moral sense with Bentham’s greatest happiness for the greatest number. At this stage in his career, Spencer frames the problem in terms of political economy; once his friendship with Lewes begins, the same questions will be reformulated in the language of developmental biology. The fundamental issues remain the same, however; issues that should be familiar from Charles Bray and Harriet Martineau: how can we reconcile the uniqueness of the individual with the inexorable logic of scientific causality? How can we accom-
moderate within a single perspective the subjective, introspective vision with the objective, empirical view? The synthetic whole with the analytic part?

In *Social Statics* Herbert Spencer finds his answer in a single, quintessentially Victorian word: "progress." "Progress, therefore, is not an accident but a necessity." For Spencer progress is the necessity that engenders the ultimate freedom; or rather, that renders freedom and necessity in perfect harmony. *Social Statics* is a misleading title, because "social statics" will be reached only once society has progressed to the ideal state, the millennium (not unlike Comte's positivistic nirvana). "Social dynamics" is the real subject of Spencer's book.

"All evil results from the non-adaptation of constitution to conditions. This is true of every thing that lives," writes Spencer. But according to Spencer's law of Progress, "constitution" will gradually adapt itself to "conditions"; man's "latent capabilities" will blossom under "favorable circumstances." Once this progressive adaptation has perfected itself, Spencer believes, there will no longer be any tension between constitution and conditions. The individual will be harmoniously at one with his environment; the part will be perfectly assimilated into the whole.

It is here that Samuel Taylor Coleridge's law of individuation, as discussed in the "Prelude" of this study, enters Spencer's system:

Paradoxical though the assertion looks, the progress is at once toward complete separateness and complete union. . . . Civilization is evolving a state of things . . . in which two apparently conflicting requirements are reconciled. To achieve the creative purpose—the greatest sum of happiness, . . . the extremest mutual dependence [is necessary]: while on the other hand, each individual must have the opportunity to do whatever his desires prompt.

In other words, concludes Spencer, human progress is toward both "greater mutual dependence" and "greater individuation." Spencer believes that "this ultimate identity of personal
and social interests” (the perfect adaptation of constitution to conditions) will effect the reconciliation of utility and the moral sense. In this ideal society, the “greatest sum of happiness” for the whole will thus be in full accord with the progressively-perfected “innate desires” of each individual part:

Thus the production of the greatest happiness, though inapplicable as an immediate guide for men, is nevertheless the true end of morality, regarded from the Divine point of view; and as such, forms part of the present system. The moral-sense principle, also, whilst misapplied by its propounders, is still based on fact; and, as was shown, harmonizes when rightly interpreted, with what seemed conflicting beliefs, and unites them to produce a complete whole.  

Social Statics is fundamentally a work of social science and political economy. But significantly, as early as 1851, Spencer frames his Utopian social vision in biological metaphor: “A physiological view of social actions was taken, the aggregation of citizens forming a nation was compared with the aggregation of cells forming a living body; the progress from a whole made up of like parts which have little mutual dependence, to a whole made up of unlike parts which are mutually dependent to a high degree, was shown to be a progress common to individual organisms and social organisms.” In this future state of social statics, society will be an harmonious living organism, just as the human body is an organic whole “compounded of innumerable microscopic organisms,” each of which nonetheless possesses “a kind of independent vitality.” The concept of evolution lurks just behind Spencer’s “progress.” Spencer is already intrigued by “social” development as a model for “individual” development.

I have had little to say about George Henry Lewes’s review of Social Statics. Much of it consists of large chunks of direct quotation from Spencer. But Lewes singles out for particular praise Spencer’s Law of Progress, the progressive adaptation of organization to circumstances. One passage is of particular importance: “The universal law of physical modification is the law of mental modification also.” Of course, this argu-
ment follows logically upon Spencer's belief, nurtured in phrenology, that mind is subject to the same laws as body. But here, in this simple statement, can be found the germ of Herbert Spencer's great contribution to nineteenth-century intellectual history: an evolutionary psychology.

It is in this notion of "mental modification" that we find the inception of what would ultimately constitute a far profounder reconciliation of two philosophical traditions than the mediating social theory of Social Statics. In his first book, Spencer attempts to reconcile two conflicting schools of social philosophy; in The Principles of Psychology, he moves a step further, to reconcile the divergent assumptions about the nature of the human mind that underpin these two schools. John Stuart Mill considered Spencer an "anti-Utilitarian." In a letter to psychologist Alexander Bain, Spencer denied the title; in fact, he both drew upon Utilitarian principles for his evolutionary psychology and modified them significantly: "I believe that the experiences of utility, organized and consolidated through all past generations of the human race, have been producing corresponding nervous modifications, which, by continued transmission and accumulation, have become in us certain faculties of moral intuition—certain emotions responding to right and wrong conduct—which have no apparent basis in the individual experiences of utility." This passage speaks of Spencer's achievement in The Principles of Psychology (of which I will have more to say below), the reconciliation of intuition and experience through a theory of racial heredity. But it also draws attention to the origins of that reconciliation in the synthetic approach to Bentham and Shaftesbury, "experiences of utility" and "moral intuition," begun in Social Statics.

Herbert Spencer was George Henry Lewes's Victorian Spinoza for many reasons: the sheer audacity of an all-embracing system; the highly abstract, reasoned deification of passionate emotion; the belief in a scientific psychology that would treat mind and body as one substance. But for Lewes, Spinoza finally remains a transcendental philosopher, the ground of his
philosophy fenced within the subjective realm of consciousness. As the Victorian Spinoza, Spencer would combine "German" philosophy with "Baconian" science by way of evolutionary biology, providing a ground for the Absolute that transcended the limitations of the individual mind.


All discovery must be the discovery either of a fact or of a relation. . . . The discovery of a fact may be a consequence of pre-eminent faculties in the discoverer, but it is not necessarily so. The discovery of a relation, on the contrary, is strictly and exclusively the consequence of pre-eminent faculties, or power of origination.—George Eliot to George Combe, 22 April 1852

As Herbert Spencer recalled, the subject of his first conversation with George Henry Lewes in the spring of 1850 was not social statics, but the development hypothesis.75 Thereafter, it was not backward to social theories inherited from the eighteenth century, but forward, to the exciting scientific developments of their own times, to which the new friends turned during the "long Sunday-rambles," beginning in the summer of 1851, which gradually grew into more wide-ranging excursions about the English countryside. One four-day journey up the valley of the Thames was especially significant: "It was to the impulse he received from the conversations during these four days that Lewes more particularly ascribed that awakened interest in scientific theories," writes Spencer. "And in me," he continues, "observation on the forms of leaves set going a train of thought which ended in my writing an essay on 'The Laws of Organic Form'; an extended exposition of which occupies some space in The Principles of Biology' (1864).76

In that essay, published in the British and Foreign Medico-Chirurgical Review in 1859, Spencer reminisces about the same ramble, mentioning Lewes by name as his companion. He remembers picking a buttercup, gazing upon its form, and
reflecting on the effects of soil and climate on structure. Spencer's interest is equally divided between the questions of environmental influence and the inherent structural principles within the plant itself. "The conditions are manifestly the antecedent, and the form the consequent," he concludes; "it may be fairly presumed that like relationship holds throughout the animal kingdom." Spencer is also impressed with the "universal harmony" of morphological forms, "the unity which pervades the organic creation."  

These were the same terms to which Spencer and Lewes would return again and again in their essays of the early 1850s: the unity of composition and the multiplicity of adaptation; in man, the animal kingdom, organic creation, and, in a grand progressive synthesis, the cosmos itself. Within the next year after that theory-hunting expedition, both Lewes and Spencer made public their adherence to the controversial "development hypothesis": Lewes first, the autumn after those summer rambles, in "Lyell and Owen on Development" (Leader, 18 October 1851); Spencer in the same journal in March 1852, on "The Development Hypothesis."

In his essay Lewes articulates his disagreement with particular scientific details in Lyell, Owen, and Robert Chambers. Yet he also argues for the larger ideological correctness of evolutionary theory: "The differences are reconcilable between all forms of the development hypothesis directly we substitute for it the more abstract and comprehensive formula of the law of Progressive Adaptation."  

Although Spencer acknowledges that the theory of evolution is not yet "adequately supported by the facts" (many of which Darwin would provide), he also asserts unequivocally that "any existing species immediately begins to undergo certain changes of structure fitting it for new conditions." These changes follow the same pattern of progressive development that Spencer traced in Social Statics: "Complex organic forms have arisen by successive modifications out of simple ones."

It is often remarked that during the decade before Charles Darwin's Origin of Species, evolution was "in the air." Chap-
ter 2 demonstrated that Chambers's *Vestiges of Creation* was an important source of Lewes's and Spencer's early notions about evolution. Both men were also well-acquainted with the many other scientific guises in which precursors of Darwin appeared during the nineteenth century in the work of men such as Lyell, Owen, Lamarck. But it is important to remember that for both Lewes and Spencer, the faith preceded the facts. I have chosen Chambers as my prototypical Victorian evolutionist, precisely because he was, as Lewes said, the most "metaphysical" of these scientific theorists. For Lewes and Spencer began with certain beliefs about the order of things; when they read contemporary scientists, they sought the facts to fit those beliefs ("tant pis pour les fleurs").

In the discussion of Lewes's and Spencer's evolutionary beliefs that follows, I make no claim to do full justice to the complex matrix of contemporary scientific developments that influenced these two Victorian thinkers. Rather, I will isolate the concepts I believe were central to their evolutionary cosmologies as they developed in the early 1850s, and suggest some of the sources for these concepts. They are: the unity of composition (from Goethe and St. Hilaire); the organism and the medium (from Comte); and the development from homogeneity to heterogeneity (from von Baer). The interrelation of these three concepts (and they were inseparable for Lewes and Spencer) reveals the thesis/antithesis/synthesis structure so characteristic of these Victorians: the static morphology of the unity of composition; the dynamic evolution of the developmental process; and what Lewes calls "the Staticodynamical view," in which the inherent "transcendent" structure of the individual organism is counterbalanced against the ever-changing forces of the medium as a whole.

*Unity of Composition*

Lewes's choice of Goethe as the subject for a full-length biography (the first ever written on the German) was motivated by a subject who was scientific and philosophical, as well as
literary. Lewes clearly saw Goethe as a model for his own yearning to fuse science and humanism. Appropriately, Goethe was deeply involved in the rediscovery of Spinoza by the German romantics, praising Spinoza as one "who had wrought so powerfully on me, and who was destined to affect so deeply, my entire mode of thinking." Goethe, like Herbert Spencer, was another genius in the Spinozist mold, the man of passionate emotions and far-reaching abstractions. In his Life of Goethe, Lewes singles out Goethe's ability to "[unite] the mastery of Will and Intellect to the profoundest sensibility of Emotion." In an extended passage from that book, Lewes compares Goethe's "poetical Pantheism" to Spinoza's, with evolutionary overtones: "In it the whole universe was conceived as divine . . . as the living manifestation of divine energy . . . St. Paul tells us that God lives in everything and everything in God. Science tells us that the world is always becoming . . . the primal energies of Life are . . . issuing forth under new forms, through metamorphoses higher and higher."

When Herbert Spencer writes in his Autobiography that "the inability of a man of science to take the poetic view simply shows his mental limitation; as the mental limitation of a poet is shown by his inability to take the scientific view. The broader mind can take both. Those who allege this antagonism forget that Goethe, predominantly a poet, was also a scientific inquirer," he unmistakably takes his cue from Lewes. Goethe is not just a scientist who is also a poet; he is a poetical scientist. Head and heart, reason and imagination are fully integrated in him. As such Goethe epitomizes the intellectual temperament of both Lewes and Spencer themselves: "Do not mistake him for a metaphysician. He was a positive thinker on the a priori Method."

Lewes's interest in Goethe germinated in the essay "Goethe as a Man of Science," published in the Westminster under Eliot's editorship in 1852, which reappeared as chapter 9, book 5 in the Life, retitled "The Poet as a Man of Science." The seeds of Lewes's interest in Goethe were scientific, not literary.
Lewes was the first to discuss seriously Goethe’s work as a scientist on the metamorphosis of plants, the vertebral structure of the skull, and the discovery of the intermaxillary bone common to both man and animals. Lewes begins his essay by categorizing scientists as “analytical” or “synthetical” (those favorite Spencerian terms), as epitomized by Cuvier and St. Hilaire: “The former starts from Individuals in order to arrive at a Whole. . . . The latter carries within himself the image of this Whole, and lives in the persuasion that little by little the Individuals will be deduced from it.”

He goes on to trace the similarities between the work of St. Hilaire and Goethe, arguing that Goethe, like St. Hilaire, is a “synthetical” scientist.

Lewes credits St. Hilaire with the grand concept of “Unity of composition,” a notion not only of service to zoological studies, but of philosophical significance as well. He would return to this same idea at length in an essay on the “Life and Doctrine of Geoffrey St. Hilaire,” again in the Westminster, in 1854: “What is his Doctrine? . . . That throughout the infinite variety of organic forms there runs one principle of composition: that there is one type underlying all diversities. This is . . . the greatest idea contributed by zoology to philosophy.” St. Hilaire’s “anatomy was philosophic, or transcendent, because transcending the vision of the eye, it had the vision of the mind”; it is “this addition of Reason to Observation which characterizes philosophic anatomy.” Herbert Spencer announced in his own essay on “Transcendental Physiology” in 1857 that he too was a “transcendental anatomist” who sought “general principles of structure common to vast and varied groups of organisms—the unity of plan discernible throughout multitudinous species.”

But Goethe was not merely “synthetical.” He was also “eminently a positive thinker . . . the attitude of his mind, the organic tendency of his nature, was eminently scientific.”

Revealingly, Lewes compares Goethe with Bacon as one “penetrated by the spirit of positive philosophy.” In systole
and diastole, Goethe descends from the philosophical generalization to the scientific fact, "and thus brings the whole diversity of forms within the unity of Life." Lewes notes that Goethe himself was an early believer in the development hypothesis. Like Spencer, Goethe looks not just at static structure, but also to progressive development. In the *Life* Lewes quotes Goethe on the "law of Individuation," in language that bears an unmistakable similarity to Spencer's in *Social Statics*: "The more imperfect a being is, the more do its individual parts resemble each other, and the more do these parts resemble the whole. The more perfect the being, the more dissimilar are the parts. . . . The more the parts resemble each other, the less subordination is there of one to the other. Subordination of parts indicates high grade of organization." Lewes believes that Unity of Composition is a profound truth. Unity of Composition is the necessary starting point for an evolutionary biology; but taken by itself, it places too much emphasis on the static inherent order of the individual organism. It is not adequate to explain the changing nature of the universe. "It is only by connecting this theory with another, viewing it as the Statical Law of which the Development is the Dynamical Law, that, in our opinion, it can be accepted," Lewes concludes. Lewes and Spencer found the key to progressive adaptation in the dynamic interrelationship of organism and medium.

**Organism and Medium**

Writing on "The Natural History of German Life" in 1856, George Eliot made clear that she had thoroughly assimilated Herbert Spencer's movement from a biological to a social model in *Social Statics*: "The external conditions which society has inherited from the past are but the manifestation of inherited internal conditions in the human beings who compose it; the internal conditions and the external are related to each other as the organism and the medium; and development can
take place only by the gradual constantaneous development of both.”

When Lewes investigated “Mr. Darwin’s Hypothesis” in 1868, he credited French scientist Jean-Baptiste Lamarck (1744–1829) with the “law of Adaptation” that Charles Darwin enlarged into “natural selection,” praising “the singular importance of Lamarck’s hypothesis in calling attention to modifiability of structure through modifications of adaptation.” Although Lamarck erred in placing too much emphasis on the medium at the expense of the organism, he provided a necessary corrective to the static viewpoint of transcendental anatomy. “Naturalists before his time had been wont to consider the Organism apart from the Medium in which it existed; [Lamarck] clearly saw that vital phenomena depended on the relation of the two.”

Auguste Comte’s emphasis on the relationship of organism and medium developed the same idea. Lewes found the most explicit statement of the concept in Comte’s definition of life in the *Cours de philosophie positive*: “The idea of Life supposes the mutual relation of two indispensible elements—an organism and a suitable medium or environment.” Lewes returns to the concept repeatedly throughout his book on Comte: “So far from organic bodies being independent of external circumstances they become more and more dependent on them as their organization becomes higher, so that organism and a medium are the two correlative ideas of life.”

This same notion of mutual interdependence lies directly behind Herbert Spencer’s famous definition of life in *The Principles of Psychology*: “the continuous adjustment of internal relations to external relations.” Lewes’s own emphasis on the relationship between organism and medium as the cornerstone of his evolutionary philosophy never wavered. His final book, *Problems of Life and Mind*, echoes the ideas of twenty-five years earlier: “Every vital phenomena is the product of two factors, the Organism and the Medium”; “Life may be defined as the mode of existence of an organism in relation to its medium.”
Homogeneity and Heterogeneity.

But taken by themselves, Unity of Composition and the interdependence of Organism and Medium do not necessitate a belief in progressive evolutionary development. The final seeds of Lewes's and Spencer's evolutionary theory were planted when Spencer reviewed W. B. Carpenter's *Principles of Physiology* in the autumn of 1851. In reading Carpenter writes Spencer, “I became acquainted with von Baer's statement that the development of every organism is a change from homogeneity to heterogeneity. The substance of the thought was not new to me, though its form was.” The substance of von Baer's theory is anticipated in *Social Statics* as “an unshaped belief in the development of living things; including, in a vague way, social development.”  

Spencer's sociological notions of “individuation,” in which each part becomes progressively more individualized and complex, yet simultaneously more interdependent with the whole, are given explicit scientific foundation by the German zoologist and embryologist Karl Ernst von Baer (1792–1876). Carpenter writes in the summary of von Baer that Spencer read: “The lower we descend in the scale of being, whether in Animal or in Vegetable series, the nearer approach do we make to that homogeneity which is the typical attribute of organic bodies, wherein every particle has all the characters of individuality . . . as we ascend in the scale of being, we find the fabric—whether of the Plant or the Animal—becoming more and more heterogeneous.”

Reviewing Carpenter's book in 1855, T. H. Huxley claimed that von Baer's laws “are to Biology what Kepler's great generalizations were to Astronomy.” Spencer's application of von Baer gave the proof to Huxley's analogy. His researches in embryology led von Baer to conclude that development proceeds from the general to the more highly specialized. Not surprisingly, Herbert Spencer titled the 1857 essay that took von Baer's “homogeneity” and “heterogeneity” as its passwords “Progress: Its Law and Cause.” Just as Spencer moved analo-
gously from sociology to biology in *Social Statics*, so he made the even greater leap, in “Progress,” from von Baer’s embryology to a full-blown Victorian cosmology:

The series of changes gone through during the development of a seed into a tree, or an ovum into an animal, constitute an advance from homogeneity of structure to heterogeneity of structure. . . . This is the history of all organisms whatever. . . . Now, we propose in the first place to show, that this law of organic progress is the law of all progress. Whether it be in the development of the Earth, in the development of Life upon its surface, in the development of Society, of Government, of Manufactures, of Commerce, of Language, Literature, Science, Art, this same evolution of the simple into the complex through successive differentiations, holds throughout.\(^{105}\)

Spencer’s intellectual kinship with Robert Chambers is most apparent in this essay. Chambers gathers the universe into “one majestic Whole,” from the nebular hypothesis and the formation of the solar system to the mind of man, under the universal law of development.\(^{106}\) In “Progress: Its Law and Cause,” Spencer follows the same structural model as the *Vestiges*, tracing the “law of progress” (the development from homogeneity to heterogeneity) through the solar system, the formation of the earth, plants and animals, man, society, language, religion, and art.

George Henry Lewes and George Eliot were also much taken with von Baer. In June 1853 Lewes devoted an essay in the *Leader* to “Von Baer on the Development Hypothesis,” stressing “the law of organic modification in adaptation to circumstances.”\(^{107}\) Lewes also quotes the German scientist in his *Life of Goethe* in 1855: “The history of Development is the true torchbearer in every inquiry into organic bodies.” Lewes continues in his own words, in terms that make clear that the notion of a broader, nonbiological application of von Baer’s biological principles did not originate with Herbert Spencer in 1857: “In Geology, in Physiology, in History, and in Art, we are now all bent on tracing the phases of development. To understand the grown we try to follow the growth.”\(^{108}\) In that
same year, Lewes notes that he and George Eliot are reading Carpenter's *Principles of Physiology* again—along with Gall's *Anatomie et physiologie du cerveau*.  

Of George Eliot's interest in von Baer, we have only a small but intriguing clue, to be found in the first of those three passionate love letters to Spencer in July 1852. The lovesick intellectual depicts herself filled with "a loathing for books," regressing on the scale of mental evolution: "You see I am sinking fast towards 'homogeneity,' and my brain will soon be a mere pulp unless you come to arrest the downward process." Gordon Haight footnotes Spencer's essay on the "Development Hypothesis" of 20 March 1852 as the source of Eliot's "homogeneity"; but in fact "homogeneity" and "heterogeneity" do not make their first entrance in print until Spencer's essay on "The Philosophy of Style," in October 1852—and are not explicitly related to Spencer's evolutionary beliefs until "Progress," in 1857. Spencer discovered von Baer's law while reading Carpenter in the autumn of 1851, and George Eliot offers a small but unmistakable clue that she was present at the creation. Eliot, like Herbert Spencer, was nurtured in the progressive cosmology of the phrenological world view; like Lewes, she met Spencer with an intellectual disposition ready to resonate with his. This was the woman who had opened her first essay for the *Westminster Review* in January 1851 "with a profound belief in the progressive character of human development."

After 1859 Eliot, Lewes, and Spencer all accepted Darwin's evolutionary thesis—although each did so with qualifications. In the late 1860s, a congenial scientific correspondence between Charles Darwin and George Henry Lewes ensued, recently published in volume 8 of *The George Eliot Letters*. Lewes produced a series of lengthy essays on "Mr. Darwin's Hypothesis" in the *Fortnightly* in 1868 with the evolutionist's blessing: "The articles strike me as quite excellent, and I hope they will be republished; but I fear they will be too deep for many readers," Darwin writes Lewes.

Although much that he says about Darwin in 1868 is beyond
the scope of this study, it is appropriate to note here that Lewes
did not see Darwin's ideas as radically different from evolu-
tionary predecessors like St. Hilaire, Lamarck, and Robinet.
Lewes did argue that Darwin's unique contribution, natural
selection, though only another hypothesis, is "the best hy-
pothesis at present." He credits Darwin with a more explicit
formulation of the "law of adaptation" than his predecessors,
but he also finds reflected in Mr. Darwin's hypothesis much
that should seem familiar to the reader of Herbert Spencer in
the 1850s: "The evolution of Life is the evolution of the special
from the general, the complex from the simple. An organism
rises in power as it ramifies into variety. From a homogeneous
organic mass a complex structure is evolved," writes Lewes—
summarizing Darwin in very Spencerian language. Within
Darwin's theory of natural selection, Lewes found a persuasive
reformulation of his own dual emphasis on the dynamic inter-
relationship of "conditions" and "form," medium and organ-
ism: "Minds unconvinced [by previous theories] . . . were at
once subdued by the principles of Natural Selection, involving
as it did, on the one hand, the incontestible 'Struggle for Ex-
istence,' and on the other, the known laws of Adaptation and
Hereditary Transmission." But in the final analysis, the af-
finities between Herbert Spencer and Robert Chambers's Vest-
tiges are much closer than any with Charles Darwin's Origin.
Spencer is a cosmologist rather than a practicing scientist. He
is interested in evolution as a universal process that could be
applied not just to individual organisms, but to the solar sys-
tem, social structures, and everything in between.

Spencer's second book, The Principles of Psychology
(1855), takes the general evolutionary notions that first ap-
peared in the social theory of Social Statics, and combines
them with the scientific concepts of the early 1850s shared by
Lewes and Spencer. The product: a model of the human mind
that grows out of the distinctive intellectual matrix of this Vic-
torian circle. For Herbert Spencer in the 1850s, the most pro-
ductive application of the universal law of "progress" was to
be found in the field of human psychology. This was to be
Spencer's most original contribution to the history of ideas. It was Herbert Spencer, not Charles Darwin, who first conceptualized an adaptive, evolutionary psychology.  

IV. LIFE AND MIND—HERBERT SPENCER: *THE PRINCIPLES OF PSYCHOLOGY* (1855)

Both George Eliot and George Henry Lewes were closely involved with the creation of *The Principles of Psychology*. Spencer's "general interest in mental phenomena" had been increased by reading Lewes's *Biographical History of Philosophy* in the autumn of 1851. He dated the inception of the *Principles* from a letter to his father in March 1852 when he began his reading (starting with Mill's *Logic*, lent him by Eliot) for his "Introduction to Psychology." The reader will remember that March 1852 dates the beginning of the most intense period of Eliot's and Spencer's relationship. Although the romance soon cooled, their continuing intellectual intimacy is evident in George Eliot's ecstatic letter to Sara Sophia Hennell in July 1854: "Herbert Spencer . . . will stand in the Biographical Dictionaries of 1954 as 'Spencer, Herbert, an original and profound philosophical writer, especially known by his great work XXX which gave a new impulse to psychology and has mainly contributed to the present advanced position of that science, compared with that which it had attained in the middle of the last century.'"  

After *The Principles of Psychology* was published in 1855, Eliot lent copies to her friends, and, reported George Henry Lewes, "nailed to the book by his interest in it." Lewes, who had learned the art of adaptive survival of the fittest in the literary marketplace, wrote two quite different reviews of the book, one for the more conservative *Saturday Review*—"As the Saturday Review is not to be heterodox, he was necessarily gêné," explains Eliot—the other, a series of three essays for the less orthodox *Leader*. Both are fascinating: the first for what it reveals of the impact of *The Principles of Psychology* on the general Victorian reader; the second for the clarity with
which it represents Spencer's theories as the culmination of Lewes's search for the Victorian Spinoza.

*The Principles of Psychology* is grounded on the application of the physiological method to the study of the human mind: "He makes Psychology one of the great divisions of Biology," Lewes writes in the *Leader.* The same readers who had been shocked by Combe, Chambers, and Martineau would respond in like manner to the *Principles,* as Lewes well knew when he wrote his "gêné" essay for the *Saturday Review*: "This is an exposition of psychical phenomena which will find little favor except with those who advocate materialism." Spencer's "denial of free-will" and "identification of mind with life" will be particularly controversial, observes Lewes; the *Principles* "cannot hope for much acceptance from the English public." He was correct: "It does not appear to us scientific in character. . . . We are opposed to Mr. Spencer's fundamental principles," wrote the *British Quarterly Review.* In the Unitarian *National Review,* R. H. Hutton entitles his essay "Atheism": "We find philosophers like Mr. Spencer, instead of examining the moral realities of human life, actually dissipating or distorting them, in the hope of deducing them from physiological assumptions." Such objections should by now sound familiar.

But when Lewes turns to his first essay in the *Leader,* "Herbert Spencer's Psychology," the tactful mask of the common reader cast aside, the intensity of his intellectual excitement is unrestrained. Lewes designates Herbert Spencer as the third and culminating figure in a crucial process of scientific discovery, which begins with St. Hilaire's zoology and continues with Schwann's cell theory. Just as "Schwann set aside the old methods," writes Lewes, "and proved the Unity of Composition which really underlies all the variety of forms, so Herbert Spencer sets aside" the old philosophical psychology: "We may pause by the way to notice the stages of the history of this doctrine of Unity, which succeed each other according to the law of development, i.e. from general to particular. First comes Geoffrey St. Hilaire, who proclaims the Unity of Composition in the animal forms; then Schwann, who proves the Unity in
the animal *tissues*; and finally, Herbert Spencer, who proves that Unity in the animal intelligence."\(^{124}\)

Forms, tissues, intelligence—from the most homogeneous and general to the most particular, complex, and specialized forms of life; all are a part of that great Whole, that single Substance that constitutes the monist's universe. "The Law rules the whole, one process is seen amid the endless variety," writes Lewes. He reminds the reader of his 1851 review of *Social Statics*, and feels compelled to reiterate, even more emphatically, the analogy he drew there: "In reviewing Herbert Spencer's former work, we compared him with Spinoza: a comparison which seemed strange and even hyperbolical to those who knew nothing of the old Hebrew logician; but this *Principles of Psychology* is so like Spinoza in the mental qualities it exhibits, and frequently in the very doctrine it professes, that no one acquainted with the two can fail to perceive their kindred."\(^{125}\)

In Spencer's *Principles of Psychology*, the positivist millennium has, in theory, arrived. Spencer has rescued British psychology from the airy insubstantialities of "arachnae" metaphysics. In editions of his *Biographical History* after 1855, Lewes added footnotes to that effect.\(^{126}\) And thirty years after that first history of philosophy, he returns to the same subject in *Problems of Life and Mind*. Locke, Hobbes, Berkeley, and Hume "have produced essays, not systems. There has been no noteworthy attempt to give a conception of the World, of Man, and of Society, wrought out with systematic harmonizing of principles. . . . Mr. Herbert Spencer is now for the first time deliberately making the attempt to found a Philosophy."\(^{127}\) This is a philosophy on the positive plan. At the heart of the *Principles* lies Spencer's most original contribution: he takes the biological principles he shared with Lewes during the early 1850s—the unity of composition, the organism and the medium, progressive adaptation from homogeneity to heterogeneity—and applies them to mental development: within the individual, but, with more far-reaching implications, to the human race as a whole.

George Henry Lewes entitled his third review essay of Spen-
cer's *Principles*, "Life and Mind," twenty years before his own *magnum opus* by that title. In order to appreciate Spencer's theories of mind, we must first state his definition of life. This subject has been discussed at some length in my prelude, in the context of Spencer's borrowings from Samuel Taylor Coleridge. Taken in conjunction with von Baer's development from homogeneity to heterogeneity, Spencer's "individuation" becomes an evolutionary process. This process is effected by the dynamic and adaptive interaction of organism and medium. Thus Spencer arrives at his "broadest and most complete definition of life": "The continuous adjustment of internal relations to external relations."

This definition may strike the twentieth-century reader as less than earth-shaking. But we must place Spencer's definition against the psychology of Locke, Hume, Berkeley, and prior to Darwin's biology, to perceive its genuinely radical impact. In his own *Principles of Psychology*, William James paid homage to Spencer:

> At a certain stage in the development of every science a degree of vagueness is what best consists with fertility. On the whole, few recent formulas have done more real service of a rough sort in psychology than the Spencerian one that the essence of mental life and bodily life are one, namely, "the adjustment of inner to outer relations." Such a formula is vagueness incarnate; but because it takes into account the fact that minds inhabit environments which act on them and on which they in turn react; because, in short, it takes mind in the midst of all its concrete relations, it is immensely more fertile than the old-fashioned "rational psychology," which treated the soul as a detached existent, sufficient unto itself and assumed to consider only its nature and properties.

According to Herbert Spencer, this adjustment of inner to outer, organism to medium, leads to "progressive adaptation." When this adaptation is translated into psychological terms, Spencer arrives at his theory of mental inheritance, the cornerstone of *The Principles of Psychology*.

*The Principles of Psychology* is divided into four parts: the general analysis, special analysis, general synthesis, and spe-
cial synthesis. In his preface Spencer explains that "the four parts of which this work consists, though intimately related to each other as different views of the same great aggregate of phenomena, are yet, in the main, severally independent and complete in themselves." The analysis deals with the study of human intelligence subjectively; the synthesis, objectively. To translate this Spencerese: in his analysis, Spencer views the human mind philosophically, from the subjective, internal perspective, the single center of consciousness; in the synthesis, he views the same phenomena biologically, or objectively: each mind as a single part of a greater synthetic whole, the larger pattern of evolutionary development. The essence of *The Principles of Psychology* is to be found in the ingenious method by which Spencer mediates between analysis and synthesis, the claims of philosophy and biology, introspection and observation, intuition and experience; and asserts the harmonious coexistence and dynamic interpenetration of both.

Although Spencer claimed to ground his psychology on biology rather than metaphysical speculation, he did not believe that dissecting the brain like a turnip was any more efficacious, taken alone, than introspective cogitation. In claiming the unity of composition, that life and mind are one substance, Spencer did not intend simple materialism; like Spinoza, it is inaccurate to classify him as either materialist or idealist. In fact, what Spencer sought was a science of mind that would transcend biology; to unify the polarities of introspective idealists and their innate ideas (such as the "moral sense") with the empirical men of science, who grounded their utilitarian beliefs on sense experience. The hereditary transmission of innate mental characteristics was Herbert Spencer's key to all mythologies, his intended reconciliation of the Shaftesbury and the Benthamite schools; his chief claim to a science of mind that would combine the truths of the metaphysicians with the discoveries of the biologists.

In my discussion of Charles Bray and Harriet Martineau, I suggested that the bridge between Carlyle and Bentham for Bray, mystical experience and materialism for Martineau, was
to be found in a blend of nineteenth-century romanticism with eighteenth-century rationalism, phrenology, and association psychology. In its original, "static," inception, Gall's phrenology argued for the unity of composition, mind as matter, innate mental characteristics determined in each individual at birth. But beginning with George Combe and Robert Chambers, these optimistic Victorian necessitarians added a "dynamic" belief in progress, adaptive change in accordance with circumstance. The law of universal causation remained invariable, as Mill and Comte had asserted; but the individual could also form new associative mental patterns, altering his innate constitution. And most significantly this new constitution could be passed on to the next generation.

George Henry Lewes's final words on the much-maligned science of phrenology were ones of praise: "Gall taught men the futility of looking inwards, and neglecting the vast mass of external observation which animals and societies afforded; he taught them where to seek the primary organic conditions—in inherited structures and inherited aptitudes. The effect of this teaching is conspicuous in modern works." One of these modern works was The Principles of Psychology. The reader will recall that Spencer's introduction to psychology was phrenology during the decade of Charles Bray's Philosophy of Necessity and Robert Chambers's Vestiges of Creation, George Combe's proselytizing and Harriet Martineau's conversion. Robert M. Young argues persuasively that phrenology was also a seminal influence behind Spencer's psychological theories. My discussion above of Combe and Chambers, Bray and Martineau, has suggested some of the ways in which Spencer's wedding of psychology to evolutionary biology was anticipated by other members of this Victorian circle, all of whom can be linked with phrenology.

Hints of the evolutionary possibilities of phrenology can be found in the Vestiges of Creation. Chambers believes mental characteristics are innate: "The mental characters of individuals are inherently various . . . education and circumstance . . . are incapable of entirely altering these
characters." And yet, he continues provocatively, "there is, nevertheless, a general adaptation of the mental constitution of man to the circumstances in which he lives." Might not environment alter heredity? And might not the development of the individual be parallel to that of the race? Not surprisingly, young Charles Darwin took a strong interest in the evolutionary possibilities of phrenology: "One is tempted to believe phrenologists are right about habitual exercise of the mind, altering the head, & thus these qualities become hereditary," he writes in his notebooks in 1838. "To avoid stating how far I believe, in Materialism, say only that emotions, instincts, degrees of talent, which are hereditary are so because brain of child resembles parent stock.—(& phrenologists state that brain alters)."

The phrenological cosmologies of Robert Chambers and George Combe, Charles Bray and Harriet Martineau, are intended to be equally biological and metaphysical; but prior to Herbert Spencer, the metaphysics clearly outweighed the biology. In 1855 Spencer not only had the phrenological background upon which to draw, but also the broader range of scientific sources he had explored with Lewes, from "transcendental anatomy" to the adaptation of the organism to the medium.

As early as 1841, in the Philosophy of Necessity, Charles Bray had anticipated Herbert Spencer's Principles of Psychology: "All moral rules are derived originally from Utility, but the pleasures and pains . . . on which they are based are transmitted to offspring and thus become intuitions." But it is left to the reader of the Philosophy of Necessity to move inferentially from this statement to a reconciliation of Bray's transcendental with his empirical tendencies; Bray himself makes no overt connection. By contrast, in The Principles of Psychology, Spencer's synthesis is systematic and explicit, as he claims to "furnish a solution to the controversy between the disciples of Locke and those of Kant," combining "the experience-hypothesis and the hypothesis of the transcendentalists: neither of which is tenable by itself."
“Before our generation,” wrote William James in 1890, when empirical psychologists contended that sense experience was the basis of mental development, “it was the experience of the individual only that was meant.” In his “brilliant and seductive” *Principles of Psychology*, Herbert Spencer wrought a seminal change: “When one nowadays says that the human mind owes its present shape to experience, he means the experience of ancestors as well. Mr. Spencer’s statement of this is the earliest emphatic one.”

In *Problems of Life and Mind*, George Henry Lewes rewrites Locke’s famous metaphor in Spencerian terms: “The sensitive subject is no *tabula rasa*; it is not a blank sheet of paper, but a palimpsest.”

The heart of Spencer’s argument for this new definition of an “experiential” school of psychology is to be found in chapter 3 of part 4 of *The Principles of Psychology*, the “Special Synthesis,” “The Growth of Intelligence.” There Spencer argues that all knowledge does come from experience, but expands the definition of experience to include “the experience of the *race* organisms forming its ancestry.” Like the phrenologists Spencer believes in innate mental faculties; but he incorporates phrenology with association psychology, to arrive at the notion of mental development: “The familiar doctrine of association here undergoes a great extension. . . . The effects of associations are . . . transmitted as modifications of the nervous system.” Hereditary transmission is the key to this process by which each new mind is born, as a palimpsest, already imprinted with a rich mental heritage of so-called “innate” ideas: “Instinct may be regarded as a kind of organized memory.”

Spencer saves his biggest gun for the end: “As most who have read thus far have perceived,” this notion of mental heredity implies “a tacit adhesion to the development hypothesis.”

The racial mind of man develops over time, as its ancestral heritage grows ever more complex. What began as animal instincts evolve into higher mental processes: “That progressive complication of the instincts, which . . . involves a progressive dimunition of their purely automatic character, likewise
involves a simultaneous commencement of Memory and Reason."\(^{144}\) Spencer's definition of life as "the continuous adjustment of internal relations to external relations" is thus central to the Principles. In her notebooks in the early 1870s, George Eliot demonstrated her familiarity with the vocabulary of the Principles of Psychology: "We have, as well as we can, to arrive at the classification which is called the distinction between the Static & Dynamic—between what is an inherent quality or characteristic or need of the human being . . . & what is modifiable or doomed to disappear under successive changes."\(^{145}\)

The year after Spencer's Principles of Psychology was published, Lewes wrote his essay on "Hereditary Influence, Animal and Human," which abounds with echoes of Spencer. Just as they had shared the unity of composition, the organism and the medium, and the development from homogeneity to heterogeneity between 1851-54, this intellectual friendship continued to be the source of rich reciprocation for both men. "We inherit the acquired experience of our forefathers—their tendencies, their aptitudes, their habits, their improvements," writes Lewes, commending to his readers the "original and remarkable 'Principles of Psychology'": "In this work Heritage, for the first time, is made the basis of a psychological system; and we especially recommend any reader interested in the present article, to make himself acquainted with a treatise in every way so remarkable."\(^{146}\) Twenty years later, in the five-volume Problems of Life and Mind, the influence of Spencer's evolutionary psychology continues to be strong and unmistakable: "Thought is an embodied process, which has its conditions in the history of the race no less than in that of the individual," writes Lewes. "We learn by individual experiences, registrations of feeling, rendered possible by ancestral experience."\(^{147}\)

The Principles of Psychology completes the scientific argument of this study, closing a circle of thinkers that found its methodology in the universal causation of John Stuart Mill and the positivism of Auguste Comte, and its first practical application in the phrenologists' claim that the brain is the organ of the mind. Herbert Spencer's original contribution to the his-
tory of psychology grows directly out of the matrix of ideas shared by this Victorian circle: the *Principles* fuses holistic metaphysics with evolutionary biology in an exemplary incarnation of a distinctively Victorian frame of mind. But the final note of my history is to be sounded in a theological key: because for all these thinkers, science was ultimately the servant of a higher faith. Thus I conclude with what Spencer called the "ontological bearings" of the case.148

V. THE KNOWABLE AND THE UNKNOWABLE—HERBERT SPENCER: "PROGRESS: ITS LAW AND CAUSE" (1857)

*How strange it would be if Physical Science should first reduce the explanation of all phenomena to a single force, and then Philosophy step in to reduce the logic of all explanation to a single formula. What a sword wherewith to open the world, our oyster!—Robert Lytton to George Henry Lewes, 1872*

Herbert Spencer's 1857 essay, "Progress: Its Law and Cause" was incorporated three years later into part 1 of *First Principles*, as "The Unknowable."149 As we have seen, it was in "Progress" that Spencer made the conceptual leap from von Baer's embryology to his grand Victorian cosmology on a biological model. Von Baer's development from homogeneity to heterogeneity had provided Spencer with a key to all mythologies, a formula that would unlock the mysteries of the universe by a plan according to which all the parts would be clearly connected within one stupendous whole. This evolutionary process constitutes the first half of the essay, the scientific "law" of Progress. In the second half, Spencer turns to its "cause": "The Unknowable."

George Eliot's interest in the Unknowable antedated Spencer's; she had quoted R. W. McKay in her first essay for the *Westminster* in 1851: "The known and the unknown are intimately connected and correlative."150 "Progress: Its Law and Cause," in its original essay form and its later version in *First Principles*, was singled out by Eliot for more praise than any of Spencer's other work. In a letter to Sara Sophia Hennell on
5 June 1857, Eliot leaves no doubt that it is Herbert Spencer as the poet of the Unknowable with whom she resonates:

I feel every day a greater disinclination for theories and arguments about the origin of things in the presence of all this mystery and beauty and pain and ugliness, that floods one with conflicting emotions.

Didn't you like the conclusion of Herbert Spencer's article in the Westminster R[evie]w? There was more feeling in it than we generally get in his writing.

Her response to First Principles is similar: "I think the first part [''The Unknowable''] superior to anything he has done before, and he says he feels the same himself: it is less barely intellectual—the considerations are larger." Reading proof of the second part, George Eliot continues to find herself "supremely gratified": "It is, as he says, a result of his riper thought." "It is the best thing he has done," she writes in December 1860; and later: "It is touching to see how his whole life and soul are being poured into this book." Eliot's first scene of clerical life, "Amos Barton," was published in January 1857; that October she would begin her first full-length novel, Adam Bede. The germinating artist found in Spencer's "Progress" considerations larger than the merely intellectual, a response to the same "mystery and beauty and pain and ugliness" that she would envision in the poetic eye of her fictions. And yet, like her friend Herbert Spencer, George Eliot the novelist can hardly be said to embody a "disinclination for theories." For Eliot as for Spencer, poetry and science are inseparable.

Significantly, Herbert Spencer's first mention of the Unknowable comes in his most confident and visionary essay. The more Spencer knows, the more clearly he can define the boundaries of what cannot be known; or, to put this another way, Spencer came to know, with confident certainty, exactly what he could never hope to understand. The known and the unknown are the ultimate Victorian polarity, as Spencer himself realized: "A known cannot be thought of apart from an
unknown. . . . To carry further the metaphor before used,—they are the positive and negative poles of thought; of which neither can gain in intensity without increasing the intensity of the other.”

The pivotal transition from the known to the unknowable takes place at the halfway point in “Progress: Its Law and Cause”: “Does not the universality of law imply a universal cause? . . . To do this [fathom cause] would be to solve that ultimate mystery which must ever transcend human intelligence.” Although the optimistic Victorian believes that he can fully come to understand the “how?” of the physical world, its universal causation and evolutionary processes, this finally does not answer its “why?”: “We are still in the dark respecting those mysterious properties in virtue of which the germ, when subjected to the fit influences, undergoes the special changes that begin the series of transformations.” When George Eliot read Darwin’s *Origin of Species* in 1859, she was already an enthusiastic adherent of the development hypothesis; but Darwin’s definitive intellectual breakthrough prompted her to respond with a polar antithesis: “To me the Development Theory and all other explanations of processes by which things come to be, produce a feeble impression compared with the mystery that lies under the processes.”

“Progress,” Spencer concludes, “is not an accident, not a thing within human control, but a beneficent necessity.” In his *Autobiography* Spencer writes that the essay on “Progress” was intended as a “repudiation of materialism.” Like Bray and Martineau, Spencer did not believe that matter was all. Nor did he believe in an orthodox Christian God as first mover. But Spencer’s beneficent necessity emanates from what can surely be called a religious sense of the universe.

Twentieth-century critics have tended to be unsympathetic to Spencer’s Unknowable, regarding it as at best an amusing and at worst a pathetic Victorian attempt at spiritual survival in a world without God. “His philosophy of religion is an illogical blend of reason and faith,” writes Alfred Benn, “which, as such, finds its proper place among the various schemes of
compromise and conciliation characteristically put forward by English thought when the religious revolution had entered on its acute phase.” In *The Great Chain of Being*, A. O. Lovejoy is even less respectful: “There is a purely metaphysical other-worldliness which is sometimes to be found completely disassociated from any corresponding theory of the nature of the good, and therefore from any otherworldly moral and religious temper. Perhaps the oddest example of this is to be seen in those half-dozen irrelevant chapters about the Unknowable which Herbert Spencer ... prefixed to the Synthetic Philosophy.”

But the response of Spencer’s contemporaries was quite different: James Hinton rejoiced that Spencer had “shown so many evidences of a truly religious nature.” For these Victorians the Unknowable was a happy and a necessary counterpart to their boundless optimism about the knowable; an intensely emotional counterbalance to their equally intense rationality. Harriet Martineau wrote in her *Autobiography* in 1855: “Wondrous beyond the comprehension of any one mind is the mass of glorious facts, and the series of mighty conceptions laid open; but the shadow of the surrounding darkness rests upon it all. The unknown always engrosses the greater part of the field of vision; and the awe of infinity sanctifies both the study and the dream.” In his autobiography Bray quotes George Combe and Herbert Spencer in tandem:

As George Combe says, “We cannot tell what matter is, and we are travelling through a world in which all that we can comprehend is truly relationship and nothing more. We know that the relationship established between things, and between our mind and them, gives rise to certain impressions in us, but we can penetrate no deeper into the mysteries of nature.” “No relation in consciousness,” says Herbert Spencer, “can resemble or be in any way akin to its source beyond consciousness.”

These mysteries of nature were not daunting; they were a source of joy and inspiration. George Henry Lewes first found the Unknowable in *Faust’s* “streben nach dem unendlichen”: “If we at the outset content ourselves with the Knowable and
attainable, and give up the wild impatience of desire for the Unknowable and unattainable . . . knowledge can only be relative, never absolute.”

“What life is we know not—cannot know. The mystery is impenetrable. No positive philosophy attempts to penetrate it,” he writes in Comte. Twenty years later he opened volume 2 of the First Series of Problems of Life and Mind (suggestively titled The Foundations of a Creed) in a similar vein: “The Universe is mystic to man, and must ever remain so.” Clearly, Herbert Spencer did not originate the concept of the Unknowable. He is giving voice to a sensibility central to this Victorian frame of mind.

When Spencer transmuted “Progress: Its Law and Cause” into part 1 of First Principles as “The Unknowable,” he made explicit the implications of the earlier essay, by entitling chapter 1 “Religion and Science,” to replace “cause” and “law.” Science and religion are, for Spencer, simply empiricism and intuitionism writ large: “This conclusion which . . . expresses the doctrine of the English school of philosophy, recognizes also a soul of truth in the doctrine of the antagonist German school—this conclusion . . . brings the results of speculation into harmony with those of common sense; is also the conclusion which reconciles Religion with Science.” We have traversed the full circumference of this Victorian circle, back to the Coleridgean polarity that found expression in Mill’s essays on Bentham and Coleridge, when Spencer writes:

Each side, therefore, has to recognize the claims of the other as standing for truths that are not to be ignored. He who contemplates the Universe from the religious point of view, must learn to see that this which we call Science is one constituent of the great whole. . . . While he who contemplates the Universe from the scientific point of view, must learn to see that this which we call Religion is similarly a constituent of the great whole. . . . It behooves each party to strive to understand each other, with the conviction that the other has something worthy to be understood; and with the conviction that when mutually recognized this something will be the basis of a complete reconciliation.

What is that “something worthy to be understood” that will effect the “complete reconciliation” of religion and science?
According to Spencer it is the "largest fact to be found within our mental range," an "ultimate fact," that will "[unite] these positive and negative poles of human thought." And what is this "deepest, widest, and most certain of all facts," the fact that is common to both religion and science?: "that the Power which the Universe manifests to us is utterly inscrutable." Paradoxically the knowledge of the Unknowable is "the most certain of all facts." The ultimate mysteries of the universe are shared by both science and religion.

Previous critics of George Eliot have made much of the influence of Feuerbach's Religion of Humanity on her intellectual development. Feuerbach would reduce all religion to psychology, viewing God simply as a projection of all that is noblest in man's own nature: "Religion is human nature reflected, mirrored in itself." Although Feuerbach did indeed have a great deal to teach George Eliot about the anthropological aspects of religion, I believe it is incorrect to assume that her translation in 1854 of Feuerbach's Essence of Christianity resulted in a demystification of the Unknowable for her. In that same letter to Charles Bray of 15 November 1857—six months after the publication of "Progress"—in which she defends the innate moral sense of the individual against the implications of Bray's utilitarianism, George Eliot speaks of "the many proofs that urge upon us our own total inability to find in our own natures a key to the Divine Mystery. I could more readily turn Christian and worship Jesus again than embrace a Theism which professes to explain the proceedings of God."

But George Eliot wrote of Spencer in 1875 that "every main bias of [her] mind had been taken before [she] knew him." Long before Spencer articulated it in First Principles, these Victorians sought in a wide variety of ways to reconcile religion and science, the emotions and the intellect, the unknowable and the knowable. In her first review essay for the Westminster on R. W. McKay, published six months prior to her first meeting with Spencer, George Eliot "[could not] resist giving a long extract" from McKay's "admirable" section on faith: "Religion and science are inseparable. No object in na-
...no subject of contemplation, is destitute of religious tendency and meaning." Let me urge my readers to this essay itself, to the fascinating and lengthy passage from McKay that George Eliot quotes in full. "Faith is, to a great extent, involuntary; it is a law or faculty of our nature, operating silently and intuitively to supply the imperfections of our knowledge"; conversely, "the capacity of belief must be taught how to build securely, yet not arrogantly, on the data of experience." Ideally "faith and knowledge tend mutually to the confirmation and enlargement of each other." 170

Knowing and feeling are literally, not just metaphorically, linked for these Victorians. Subjective and objective truths, intuitive expressions and sensory impressions, are two refrac­tions of the same reality; transcendental visions are both a mystical impulse and a localized biological phenomenon. The Unknowable is also a scientific fact. "We find no room for matter at all. . . . We find only force or power, and that not separate from its source, or from God." 171 Bray, the reader will remem­ber, draws upon Eastern mysticism, German idealism, and Spinoza for his concept of force: "There is but one infinite sub­stance, and that is God"; but also, equally, on contemporary scientific theories of electricity and magnetism: "Science, then, proves the unity of Force." 172 Force bridges the physical and the metaphysical, operating in accordance with laws common to both matter and spirit.

Herbert Spencer's Unknowable has a great deal in common with Charles Bray's force:

Though he may succeed in resolving all properties of objects into manifestations of force, he is not thereby enabled to conceive what force is; but finds, on the contrary, that the more he thinks about it, the more he is baffled. Similarly, though analysis of mental ac­tions may finally bring him down to sensations as the original ma­terials out of which all thought is woven, he is none the forwarder; for he cannot in the least comprehend sensation. Inward and out­ward things he thus discovers to be alike inscrutable in their ultimate genesis and nature. He sees that the Materialist and Spiritualist controversy is a mere war of words; the disputants being equally absurd—each believing he understands that which it is impossible for any man to understand." 173
Spencer once again rejects any simple dichotomy of materialism and spiritualism; any view that sees the world purely as a product of material forces, or conversely, entirely reducible to subjective sensations. According to Spencer both physical forces and mental sensations are manifestations of the same, "primordial," force: "Those modes of the Unknowable which we call motion, heat, light, chemical affinity, etc., are alike transformable into each other, and into those modes of the Unknowable which we distinguish as sensation, emotion, thought,"¹⁷⁴ Not surprisingly, Charles Bray quotes this passage approvingly in his autobiography, also printing there a letter he received from Spencer in 1881 in which the synthetic philosopher asserts the same belief: "There is not only a correlation between physical force and that which we know as feeling, but the one is, under the conditions specified, transformed into the other. In fact, I can perceive no other possible interpretation of the phenomena."¹⁷⁵

Another of the many interests George Henry Lewes shared with Herbert Spencer was the concept of force. Although he rejected Charles Bray's mesmeric force as a simplistic and unscientific notion in 1866, Lewes had discussed force as early as 1853, in an essay on "English Philosophy" in the Leader: "The Organic is reproductive. . . . It thus becomes a centre of Force . . . that which is true of the organical . . . is equally true of the Mind; it is also a centre of Force."¹⁷⁶ In the 1870s Lewes turned to an extended discussion of force and cause as "Problem V" of The Foundations of a Creed in Problems of Life and Mind. In chapter 1, "The Conception of Force," Lewes, always the intellectual historian, summed up previous definitions of Force—including Herbert Spencer's Unknowable and Charles Bray's imaginary entity—before offering his own definition of the term:

The word Force is a symbol which has many meanings. It varies in different works, and often in different passages of the same work. Sometimes it stands for the Unknowable, whose manifestations are the objective universe; sometimes it is the common measure by which all phenomena are rendered intelligible; sometimes it is an imaginary entity supposed to take up its habitation in sub-
stances, passing freely from one to the other . . . sometimes it is the simple synonyme of cause, sometimes of strength, sometimes of motion; now confounded with, and now distinguished from, Energy. . . . But the physicist has his cohesive, diffusive, elastic forces, the chemist has his affinity, the biologist his vital forces, and the psychologist his moral forces,—which are not so readily reducible to the mathematical formula.

If we consider what all these different meanings have in common, it will be found that the definition I have proposed—the Activity of Matter, or the Changes in the Felt—comprises them all.177

Characteristically, Lewes the positivist would unify physics, chemistry, biology, and psychology under the common law of force. "The activity of Matter, or the changes in the Felt," are one and the same—simply viewed from the objective and subjective sides of the circle.

"Our world arises in Consciousness," Lewes writes in Problems of Life and Mind;178 and much of Lewes's later thought has a real kinship with Charles Bray's philosophy. Bray asserted that "the material order may exist only as mental."179 "Matter, the real, with which we have to deal, is saturated with Mind, since it is the Felt," writes Lewes in the important essay "Spiritualism and Materialism" (1876) that summarizes much of Problems.180 Charles Bray also quotes Lewes approvingly in his autobiography: "All our knowledge springs from, and is limited by, Feeling. The universe represented in that knowledge can only be a picture of a system of things as those exist in relation to our sensibility."181 Bray then goes on to argue that this limitation—"We know only our own feelings"—has its virtues: "We may be thankful . . . for if, as George Eliot says, we had a keen vision and feeling for all ordinary life, it would be like hearing the grass grow and the squirrel's heart beat; and we should die of that roar which lies on the other side of silence."182 This famous passage is, of course, taken from Middlemarch. I will turn to that novel in the chapter that follows; but let me emphasize here that this picture of limited human perceptions—the Unknowable—must be viewed in conjunction with the microscopic eye of the novelist's power-
ful narrator, focusing its intense illumination on the "particular web" of Middlemarch. These Victorian visionaries never falter in their optimistic exploration of the knowable, despite their acute awareness of its limitations. For they all believe in what Lewes called "the invisible continuous Cosmos, which is conceived as an uniform Existence, all the modes of which are interdependent." Because the cosmos is continuous, the web of the created world, however apparently tangled, must finally have a coherent pattern, a meaningful order.

A healthy respect for the limitations of human understanding must not stand in the way of legitimate distinctions between that which is truly unknowable and that which is merely as yet unknown. "All our knowledge springs from, and is limited by, feeling"; but Lewes—and all his Victorian compatriots—do not stop with the felt; but rather, seek, to translate it into the known: "The facts of Feeling which sensation differentiates; Theory integrates. What we experience as Feeling, we systematize as Science. Hence the speculative effort, thoroughly justifiable, to reduce all phenomena to one Cause, all laws to one law, to see the Many in the One, and the One in the Many, as Plato divined." If I had to select a single statement, from the many quoted in this study, to epitomize the frame of mind shared by these Victorians, it would be this one. John Stuart Mill's universal causation, Auguste Comte's positivism, George Combe's phrenological philosophy, Robert Chambers's evolutionary cosmology, Charles Bray's and Harriet Martineau's mesmeric force, Lewes's search through the annals of philosophy and science, Herbert Spencer's Law of Progress: each can be seen as an effort, grounded upon a belief in the continuous Cosmos, to "reduce all phenomena to one Cause, all laws to one law." "Without general conceptions," Lewes writes in Problems of Life and Mind, "particular experiences would be like the scattered leaves of the Sibyl; unless each leaf be read in connection with the others, its significance is concealed, for in itself it has no significance."

But just as the known and the unknown are intimately connected, so the polarities of analysis and synthesis go hand-in-
hand, as the diastole and systole of human reason. Intuitive faith leads back to scientific fact. These Victorians were more often armchair scientists than practicing technicians, and subsequent advances have relegated many of their most-cherished scientific beliefs to the dusty attic of historical oddities; yet each, in his own fashion, embraced with scientific energy and enthusiasm the individuality and the multiplicity of the continuous cosmos—its "heterogeneity"—as a necessary complement to the poetics of its fundamental unity. Once again, it is George Henry Lewes who sums this up best, in the concluding paragraph of The Foundations of a Creed:

This unification of all the modes of Existence by no means obliterates the distinction of modes, nor the necessity of understanding the special characters of each. Mind remains Mind, and is essentially opposed to Matter, in spite of their identity in the Absolute; just as Pain is not Pleasure, nor Color either Heat or Taste, in spite of their identity in Feeling. The logical distinctions represent real differentiations, but not distinct existents. If we recognize the One in the Many, we do not thereby refuse to admit the Many in the One.  

There has been a great deal of emphasis in this study on the dynamic interpenetration of polar opposites. But it should be stressed here that, as Samuel Taylor Coleridge and Herbert Spencer insisted, the highest unity—the one in the many—also implies the most intense individuality—the many in the one.

Whether these Victorian cosmologies are persuasive may be debatable; whether the cosmos is, in fact, "continuous," is certainly still as much a question of faith as of proof for the twentieth century as it was for the nineteenth. And these Victorians themselves, despite the radiant illumination of their apparently boundless optimism, were forced to expand the boundaries of the dark Unknowable on every side, even as they claimed new territories for the known.

In the context of all the forward-looking energy of this Victorian vision, we should not forget that many of these ideas depend upon intellectual foundations laid long before the nineteenth century. None more so than "the Many in the One,
the One in the Many," which, George Henry Lewes reminds us, was expounded by Plato in the fourth century B.C. Plato, for all his search after absolutes and unswerving belief in their existence, knew how small man stood in the midst of the continuous cosmos: "The soul is confronted with the Many by means of Sense, and by means of Reason it detects the One in the Many; i.e. the particular things perceived by Sense awaken the recollections of Universals or ideas. But this recollection of Truth is always more or less imperfect. Absolute Truth is for the Gods alone." Looking back upon these Victorians as they attempt to scale Mount Olympus, they must at times appear, if not foolish, at least foredoomed to failure. But surely their hubris is worthy not only of our sympathy, but of our admiration—and perhaps, of our envy.


2. Lewes here playfully echoes the fictional Casaubon's "Key to All Mythologies" in Middlemarch, which Eliot was writing simultaneously with Problems. See George Henry Lewes, George Eliot Letters, 5:291, 350, 364, 370.

3. George Henry Lewes, Problems of Life and Mind. Third Series. Problem the First. The Study of Psychology: Its Object, Scope and Method (Boston, 1879), p. 54. In the preface to the first volume, Lewes says that "its origin may be said to go so far back as 1836" (Problems. First Series. The Foundations of A Creed [Boston, 1874-75], 1:v).

4. Johann Wolfgang von Goethe, quoted in "Goethe as a Man of Science," p. 261. Another German, Ludwig Feuerbach, uses the same metaphor in The Essence of Christianity (which Eliot was translating while Lewes researched his biography of Goethe). In Eliot's translation: "As the action of the arteries drives the blood into the extremeties, and the action of the veins brings it back again, as life in general consists in perpetual systole and diastole; so it is with religion. In the religious systole, man propels his own nature from himself, he throws himself outward; in the religious diastole, he receives the rejected nature into his heart again" (Feuerbach, Essence, trans. George Eliot [1854; rpt. New York, 1957], p. 468). Eliot herself uses the metaphor in Middlemarch (see "Finale," p. 249).


7. Young, Mind, Brain, and Adaptation, p. 168.
8. Jack Kaminsky, "The Empirical Metaphysics of George Henry Lewes," *Journal of the History of Ideas* 13 (1952):314, 322. Similarly Tjoa accurately states that Lewes "earnestly tried to meet the two divergent intellectual demands of his age: the one a seasoned empiricism imposing procrustean measures upon all intellectual activity, and the other a swelling need for a kind of 'religious rationalism,' a meaningful vision of man and things (Lewes, pp. 117-18). But he is skeptical of Lewes's optimism; his "positivistic enthusiasm" is "too extravagant" (p. 136). Tjoa incorrectly interprets this extravagant optimism as "the strained effort to put up a brave front" (p. 157).


11. Lewes, "Spiritualism and Materialism," p. 483. Lewes does not date this experience. George Levine writes perceptively of Lewes: he "is in the paradoxical position of any empiricist who seeks systemic wholeness. Committed to common sense, he finds himself in a reality that runs counter to what common sense reveals. . . . His language must move from appearances to realities in a rhythm that is so directly reminiscent of religious language that it is difficult to avoid the connection" ("George Eliot's Hypothesis of Reality," *Nineteenth Century Fiction* 35 [1980]:9).


24. Haight. *George Eliot Letters*, 1:158n. Haight suggests that the work in question was the *Tractatus*, given Brabant's and Eliot's interest in the "higher criticism." He
cites Mathilde Blind, *George Eliot* (London, 1883) as the source of the information that Eliot was translating "De Deo," chiding Blind for her ignorance that this is the opening chapter of the *Ethics*; and then implies that Blind’s mistake undermines her credibility. But the source of Blind’s information was probably W. M. W. Call’s "George Eliot, Her Life and Writings," *Westminster Review* 116 (1881):154-98. Call writes: "Miss Evans had translated about ten years previously, the first part ('De Deo') of Spinoza’s great treatise, for the edification of a philosophical friend" (161). As Brabant’s son-in-law and a personal friend of Eliot, Call was in a good position to have accurate information. Given the "friend" Charles Bray’s necessitarian interests, the *Ethics* was a likely subject. Regardless, it seems that Eliot would have known both *Ethics* and *Tractatus* in the early 1840s.


28. The scandal raging over her liaison with Lewes may have been the source of Eliot’s request to Bray in March 1856: “By the way, when Spinoza comes out, be so good as not to mention my name in connection with it. I particularly wish not to be known as the translator of the Ethics, for reasons ‘too tedious to mention’” (Eliot to Bray, *George Eliot Letters*, 2:233; see also 2:197).


37. In this small Victorian world, Willis was also Eliot’s and Lewes’s physician: "Dr. Willis, by the way, is a phrenologist, and was a most intimate friend of Spurzheim for whom he had great respect and affection," Eliot writes Bray in 1855 (George Eliot Letters, 2:210). Willis translated Spurzheim’s *Anatomy of the Brain* in 1826; his translation and commentary, *Benedict de Spinoza: His Life, Correspondence, and Ethics* (1870) is listed in the Lewes-Eliot library (William Baker, *The Libraries of George Eliot and George Henry Lewes* [Victoria, Canada, 1981], p. 119).

the metaphysical aspect, one will tend to think of Spinoza primarily as a 'panthe­ist'. . . . If one stresses . . . the 'naturalistic' aspect, one will tend . . . to see in the philosophical system the sketch of a programme for scientific research" (A History of Philosophy, Descartes to Leibniz [New York, 1963], 4:234-35).


40. Eliot found little to recommend in Lewes's fiction. She writes Spencer from Broadstairs in July 1852: "I have read Deerbrook [by Harriet Martineau] and am surprised at the depths of feeling it reveals. Rose, Blanche, and Violet, too—at least the first two volumes—the third I have left behind and (damaging fact, either for me or the novel!)—I don't care to have it" (George Eliot Letters, 8:51).


42. George Henry Lewes, review of Social Statics, Leader, 12 April 1851, p. 348; 22 February 1851, p. 178. Lewes's review articles appeared on March 15, March 22, and April 12, 1851.

43. George Eliot to Charles Bray, George Eliot Letters, 1:364. In the same letter, Eliot recommends Atkinson's and Martineau's Letters for review in the Coventry Herald. On 16 February 1852, Eliot writes Bray that she is a "hideous hag" with a headache, and thus unable to show visitor Sara Sophia Hennell about town. Fortunately, the "dear creature" accommodates herself by "sitting quietly by my fire and reading Social Statics with many interjections" (George Eliot Letters, 2:11).

44. Herbert Spencer to Edward Lott, 25 April 1852, quoted in Haight, George Eliot: A Biography, p. 112.


46. See these letters in full, George Eliot to Herbert Spencer, George Eliot Letters, 8:50-52, 56-57, 61.

47. Spencer, Autobiography, 1:458, 460.

48. Haight says that Eliot was introduced to Lewes on 6 October 1851 (George Eliot: A Biography, p. 127); but I note she was at least acquainted with his opinions on Social Statics when she met Spencer at the Chapman's the previous week (see [ms. p. 246]).


53. Peel, Herbert Spencer, p. 1. In his anthology English Literature and British Philosophy (1971), S. P. Rosenbaum feels little need to apologize for Spencer's absence: "Herbert Spencer is missing . . . although with Spencer it is also questionable how important his ideas were for any really enduring works of English literature" ("Introduction," p. 4). Spencer's friendship with George Eliot should cast doubt on that assertion.


57. Spencer, *Social Statics*, pp. 13, 24. There are many similarities between Spencer's assessment of the limitations of Utilitarianism and John Stuart Mill's reaction to the philosophy of his father and Jeremy Bentham in his *Autobiography*.

58. Spencer, 1850 "Preface" to *Social Statics*, p. xv; *Social Statics*, p. 18.


60. George Eliot to Charles Bray, *George Eliot Letters*, 2:403. Eliot spoke publicly along the same lines the year before in her essay, "The Natural History of German Life," when she bemoaned "the tendency created by the splendid conquests of modern generalization, to believe that all social questions are merged into economical science, and that the relations of men to their neighbours may be settled by algebraic equations" (in Pinney, p. 272).


62. Robert M. Young writes: Spencer believes in "the faculty of the 'Moral Sense.' In his argument for such a faculty, Spencer reveals the detailed influence of phrenology on his psychological thinking" (*Mind, Brain, and Adaptation*, pp. 155-56, 154).


64. Spencer, *Social Statics*, pp. 54, 55. See Peel, *Herbert Spencer*, pp. 102-11 for a discussion of Spencer's philosophy as "a transformation of Calvinist themes" (p. 103), along lines very similar to my discussion of Bray in chapter 3.


66. Spencer, *Social Statics*, p. 44; my emphasis.


68. See Spencer, *Social Statics*, p. 447: "Social philosophy may be aptly divided . . . into statics and dynamics; the first treating of the equilibrium of a perfect society, the second of forces by which society is advanced towards perfection."

69. Spencer, *Social Statics*, pp. 73, 454.


80. As J. D. Y. Peel writes: "Spencer's approach was unlike that of his biological contemporaries . . . in that he did not start off from a phenomenon to be explained, but from ethical and metaphysical positions to be established. Consequently, he was an evolutionist long before Lyell, Huxley, and Darwin" (*Herbert Spencer*, p. 152).


83. Lewes, *Life of Goethe*, p. 35. Similarly, in his novel *Ranthorpe*, Lewes's fictional hero Thornton muses: "Goethe, my young friend, was the last man in the world to deserve the epithet cold. What makes boobies call him so, is the magnificent supremacy which his reason always exercised over his passions" (*Ranthorpe* [1847; rpt. Athens, Ohio, 1974], p. 171).


85. Spencer, *Autobiography*, 1:485. Though Lewes's claim is, characteristically, a more modest one: "The antithesis to Poetry, as Wordsworth felicitously said, is not Prose, but Science. Therefore have Poets and Men of Science, in all times, formed two distinct classes, and never, save in one illustrious example, exhibited the twofold manifestation of Poetry and Science working in harmonious unity: that single exception is Goethe" ("Goethe as a Man of Science," p. 258).


87. Lewes, "Goethe as a Man of Science," p. 260.

88. Lewes, "Goethe as a Man of Science," p. 267.


91. Lewes, "Goethe as a Man of Science," p. 261. Another interesting link between Goethe and this Victorian circle: Lewes writes that when phrenologist Gall visited Jena in 1805, Goethe attended his lectures: "Instead of meeting this theory with ridicule, contempt, and the opposition of ancient prejudices . . . Goethe saw at once the importance of Gall's mode of dissection . . . and of his leading views. . . . Gall's doctrine pleased him because it determined the true position of Psychology in the study of man . . . showing the identity of all mental manifestation in the animal kingdom" (Life of Goethe, p. 486).

92. Lewes, "Goethe as a Man of Science," p. 272.

93. Goethe, quoted in Lewes, "Goethe as a Man of Science," p. 268. In reworking this essay into "The Poet as a Man of Science" for the *Life*, Lewes gives a slightly different version of this passage, and also its source: *Zur Morphologie* (Life of Goethe, p. 355).
NOTES

97. French historian Georges Banguilhem writes: "There was no biologist or physician in France between 1840 and 1860 who . . . did not have to deal either directly with the themes of Comte's biological philosophy [the dualism of life and matter, the correlation of organism and environment] or indirectly with that philosophy through the themes developed from it" ("La philosophie biologique d'Auguste Comte et son influence en France au xixe siècle," quoted in Simon, *European Positivism*, p. 114).
114. Lewes, "Mr. Darwin's Hypothesis," *Fortnightly Review* 3:355; 4:66; 3:356. Lewes's essays on Darwin appear in vols. 3 (1868):353-73, 611-29 and 4:61-80, 492-501. In "George Eliot's Hypothesis of Reality," George Levine states that "for Lewes and George Eliot, following Darwin, the highest organism is both the most complexly differentiated from its rudimentary origins and the most integrated in other organisms" (8). Levine is correct, but Spencer, not Darwin, is the source of this idea.

115. Peel sums up the distinction between Spencer and Darwin: "Darwin's theory accounted for the secular transformation of each species by the mechanism of natural selection, while Spencer's attempted to explain the total configuration of nature, physical, organic, and social, as well as its necessary process" (Herbert Spencer, p. 142). Young argues that Spencer was "more seminal than directly contributory," since he was not a practicing scientist; he notes Darwin's influential later work in evolutionary psychology. He draws a parallel between Gall and Spencer: "Both advocated studies which they did not successfully conduct themselves" (p. 190). Although Darwin had worked in the application of evolutionary theory of psychology in his early notebooks, he did not publish on the subject until 1871, in *The Descent of Man*.


118. George Eliot to Mrs. Wathen Mark Wilks Call, *George Eliot Letters*, 2:476; George Eliot to Sara Sophia Hennell, *George Eliot Letters*, 2:213. We catch a glimpse of Lewes's characteristic sense of humor in his letter to Spencer on the *Principles*: "I hope the book sells. If it can get a decent nucleus of a public it is sure to make its way; all that surrounds the nucleus being as you know a sell" (George Henry Lewes to Herbert Spencer, *George Eliot Letters*, 8:151).


120. George Henry Lewes, "Life and Mind," *Leader*, 3 November 1855, p. 1,062. This is the third part of Lewes's review of Spencer's *Principles of Psychology*, preceded by "Herbert Spencer's Psychology" (*Leader*, 20 October 1855, pp. 1,012-13) and "History of Psychological Method" (*Leader*, 27 October 1855, pp. 1,056-37).


128. Spencer, *Principles of Psychology*, p. 374. The review of the *Principles* in the *British Quarterly Review* drew an explicit parallel between Spencer and Comte on this subject: the relation of life and "outward environments" in the *Principles* is "precisely that put forth by the author of the Positive Philosophy" (p. 597).

129. William James, *The Principles of Psychology* (1890; rpt. New York, 1950), 1:6. The second edition of Spencer's *Principles* was James's textbook for his first class


133. "Adaptation was a major issue in *Social Statics*, and Spencer's conception of it was derived directly from phrenology"; before Spencer, "no psychologists except Gall and his followers had so emphatically made the connection of mind with life, and the adaptation of the mental functions to the environment, central to their views" (Young, *Mind, Brain, and Adaptation*, p. 169).

134. In "a few remarks on the tenets of the phrenologists," Spencer attacks them as "wrong in assuming there is something specific and unalterable in the natures of the various faculties" (*Principles*, p. 610). Although this static view of the mind was true of Gall, modifiability of faculties became a central tenet from Combe onwards, as evidence in my discussion of Chambers, Bray, and Martineau.


138. Spencer, *Principles of Psychology*, pp. 578, 581. Benn summarizes the obvious philosophical limitations of Spencer's grandiose claim: "Spencer believed that by his theory of inherited ancestral experience he had reconciled the opposing views of Kant and Mill. In reality he had done nothing of the kind. He had considerably extended the ground occupied by the empirical school, and furnished them with a plausible reply to one of the objections previously urged against their explanation of necessary truths; but he had done no more. The main contention of Kant and his followers, which is that no amount of experience can give universality and necessity to a proposition, still remained unanswered" (*History of Rationalism*, 2:173).


146. Lewes, "Hereditary Influence," 161n. Similarly, see Eliot in a letter to Bray on historian Henry Buckle: "He holds that there is no such thing as race or hereditary transmission of qualities!" (*George Eliot Letters*, 2:415).


149. See Herbert Spencer, *First Principles* (1862; rpt. New York, 1879), p. xvii, for the publishing history of the book, which appeared between October 1860 (part 1) and June 1862 (part 6).


158. Lovejoy, *Great Chain of Being*, p. 28.

159. James Hinton, "Herbert Spencer's *Principles of Biology,*" in *Chapters on the Art of Thinking* (London, 1879), p. 368. Much of the original *Principles of Psychology* was incorporated into the *Principles of Biology* in the 1860s.


162. Lewes, *Life of Goethe*, p. 479. Lewes cites this as the "moral" of *Faust*. Eliot uses an epigraph from *Faust* in *Middlemarch*: "Zum höchsten Dasein immerfort zu streben" (p. 579).


175. See Bray, *On Force*, p. 14; Herbert Spencer to Charles Bray, 7 March 1881, quoted in *Phases of Opinion*, p. 100. See also *On Force*, pp. 35, 78 for quotations from *First Principles* which document the compatibility between Bray and Spencer. Thirty-three years after Lewes's review of *Social Statics*, Spencer is still spoken of in the same breath as Spinoza: "There is but one Reality in the universe, which Physical Philoso-
phers call 'Force;' and Metaphysicians 'Noumenon.' It is the 'Substance' of Spinoza, and the 'Being' of Hegel" (Phases of Opinion, p. 101).

188. Plato, paraphrased in Lewes, Biographical History, p. 223. The Biographical History contains a discussion of Plato on pp. 209-29. See the "Philebus" dialogue for Plato's discussion of the many in the one, the one in the many.