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Herbert Hovenkamp

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# The Marginalist Revolution in Legal Thought

Herbert Hovenkamp\*

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## I. INTRODUCTION: DARWINISM AND MARGINALISM

For legal policy the two most important scientific ideas of the nineteenth century were Darwinism and marginalism.<sup>1</sup> Both became the

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1. A third candidate is Freudianism.

starting points for the great revolutions in the social sciences that took place in the 1870s and later.<sup>2</sup>

The central principle of Darwinism is the theory of evolution by natural selection. Because nature produces many more offspring than each niche in the environment can accommodate, individuals of a particular species must compete to survive. Purely at random each individual acquires from its parents a set of characteristics that are different from those of any other individual. Those who inherit characteristics that give them a competitive advantage tend to live long enough to have offspring of their own. They pass these characteristics on to future generations, who then continue the struggle.

The starting point for Darwinian analysis of the human individual is the environment. Both the human organism and its behavior are a product of the environment, shaped over many generations. The organism's choices are determined by the situation around it.

By contrast to Darwinism, marginalism begins with the human being as an autonomous decisionmaker.<sup>3</sup> Each individual has a certain amount of wealth and a collection of wants, but as his desire for some particular thing is fulfilled, his wish for more of that thing diminishes. The individual then maximizes his satisfaction by purchasing goods in such quantities so that, at the margin, the amount of satisfaction each gives him is precisely the same.<sup>4</sup>

Marginalism was such an important observation within economic theory that it formed the principal boundary line between "classicism" and "neoclassicism"—a boundary that is as significant in its own domain as the boundary between pre-Darwinian and post-Darwinian natural science. The main distinction between the classical political economists (Adam Smith through John Stuart Mill) and the neoclassicists (mainly William Stanley Jevons and Alfred Marshall) is that the former were pre-marginalist.

Marginalism and Darwinism are very different, often inconsistent world views, but they share certain fundamental starting points. For example, they are both aggressively presentist. In both the struggle for survival and the maximization of satisfaction, status and past history mean little when weighed against the situation and the impulses of the moment. In this sense both Darwinism (at least as it developed in the social sciences) and marginalism are antihistorical. According to Darwinism the same physical or mental attributes that were assets in yes-

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2. See Herbert Hovenkamp, *Evolutionary Models in Jurisprudence*, 64 *Tex. L. Rev.* 645 (1985); Dorothy Ross, *The Origins of American Social Science* (Cambridge, 1991).

3. See William S. Jevons, *The Theory of Political Economy* 1-2 (Oxford, 1871).

4. *Id.* at 51-60.

terday's struggle might be liabilities in today's, particularly if the environment has changed in the meantime. For marginalism, incentives are determined entirely by current wishes or needs and have little to do with previous commitments or historical status. As a result, both economics and the social sciences gradually have acquired a strong ahistorical bias. The mere fact that institutions and customs are ancient does not give them current value.

Darwinism and marginalism do have their fundamental differences. Darwinism is mainly an empirical concept. Darwin developed the theory of natural selection after many years of scientific observation, and his famous work *On the Origin of Species* attempts to prove its truth with vast amounts of empirical evidence.<sup>5</sup> By contrast, marginalism is a fundamentally analytic concept. Indeed, in one important sense it cannot be "verified" at all. We cannot verify or falsify that a person purchases wine and apples in a combination that equates her marginal utility for the two because doing so would require both cardinalization and interpersonal comparison of utilities.<sup>6</sup> We *can* show geometrically or mathematically, however, that a "rational" person will equate marginal utilities in this fashion.

During the Progressive era (roughly 1890-1920), Darwinism and marginalism were viewed as complementary models of human behavior, the former emphasizing the relationship between the individual and her environment and the latter emphasizing the role of individual choice in determining well-being. The Progressive economists' view that interpersonal utility comparisons were appropriate and capable of justifying state welfare policy<sup>7</sup> was really nothing other than an attempt to integrate the Darwinian and the marginalist views of human nature. Darwinism told the American Progressive—whether economist, psychologist, or other social scientist—that basic human needs and desires are determined principally by the environment. At least at some level, the things we call "preferences" are those things necessary for survival. The structure of the human organism's preferences is a prod-

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5. Charles Darwin, *On the Origin of Species by Means of Natural Selection, or The Preservation of Favoured Races in the Struggle for Life* (Murray, 1859). On the thoroughness of Darwin's empirical work, see generally Adrian Desmond and James Moore, *Darwin* (Warner Books, 1992).

6. However, a variation that applies to business firms can perhaps be verified—namely that firms purchase inputs so that the marginal gain from all of them is about the same. For example, if herbicide and weeding by hand are complementary ways of killing weeds, the farmer will purchase both to the point that the marginal contribution of each in relation to its costs is about the same. If the farmer's current resources are spent in such a way that an additional dollar on herbicide kills 100 weeds but an additional dollar on weeding by hand kills 50 weeds, the farmer will invest somewhat less in hand-weeding and somewhat more in herbicide until the two are equalized. In this manner he will minimize his weed-removal costs.

7. See discussion in notes 53-56 and accompanying text.

uct of evolution just as much as his straight spine and his cognitive abilities. As a result, one can discern preferences by studying human evolution or even the environment itself. This Darwinian model thus permitted Progressive era economists to speak of "social" as well as individual wants.<sup>8</sup> It suggested that human "utility" curves—themselves a product of evolution—are more or less the same for all individuals, at least with respect to those basic goods necessary for survival. During the Progressive era and the years immediately preceding it, an enormous economics literature imported this rhetoric of marginalism into the economics of welfare policy and wealth distribution, as well as into more conventional subjects such as price theory.<sup>9</sup>

In the 1930s a group of economists we now call the ordinalists,<sup>10</sup> who argued that interpersonal utility comparisons are scientifically impossible, cut the knot between marginalism and Darwinism. The ordinalists believed that one could not measure the amount of utility that a person received from something so as to permit comparisons of her utility with that of someone else. In the wake of the ordinalist critique, the economics of welfare had to be reconstructed along lines that were thought not to require interpersonal utility comparisons.<sup>11</sup>

From that point on economics would not really be a "social" science as that term was generally understood. For the ordinalists human preference became the starting point of economic science; looking to the environment for the source that had produced a preference was generally thought to be unscientific or irrelevant. Economics ceased to be an evolutionary science, but rather adopted a "methodological individualism" that regarded the concept of social preferences as meaningless.<sup>12</sup>

#### A. *The Marginalist Revolution*

Ideas like marginalism and Darwinism are mechanisms for forming consensus within the democratic community. The most robust policy ideas in a republican society are not the consequence of unadorned

8. See generally Herbert Hovenkamp, *The First Great Law & Economics Movement*, 42 *Stan. L. Rev.* 993 (1990).

9. Examples from both early and late in the period include John R. Commons, *The Distribution of Wealth* 10 (Macmillan, 1893); John Bates Clark, *The Ultimate Standard of Value*, 1 *Yale Rev.* 258 (1892); Simmon Patten, *The Scope of Political Economy*, 2 *Yale Rev.* 264 (1893); Frank William Taussig, 1 *Principles of Economics* (Macmillan, 3d ed. 1921); Jacob Viner, *The Utility Concept in Value Theory and Its Critics* (pts. 1 & 2), 33 *J. Pol. Econ.* 369, 638 (1925). Numerous other examples are discussed in Hovenkamp, 42 *Stan. L. Rev.* at 993.

10. See Lionel Robbins, *An Essay on the Nature and Significance of Economic Science* (Macmillan, 1932); Hovenkamp, 42 *Stan. L. Rev.* at 993; note 57 and accompanying text.

11. See, for example, Ian Malcolm David Little, *A Critique of Welfare Economics* 50-58 (Clarendon, 2d ed. 1957).

12. See, for example, Joseph Schumpeter, *On the Concept of Social Value*, 23 *Q. J. Econ.* 213 (1909).

selfish preferences, but rather of objective welfare judgments that a certain course of action is best for a certain circumstance. Although people who are strongly interested in an outcome may cast all theory aside, those who are less interested generally take theory into account, often very strongly. Thus, for example, in the nineteenth century the government tended to grant monopoly privileges to bridges, ferries, and railroads, but not to general stores, cobblers, or printers. This allocation resulted not from the fact that the former class had better lobbyists than the latter, although sometimes that was perhaps true. Rather, in addition to their individual preferences, government decisionmakers also had the makings of a theory of natural monopoly, under which monopoly grants seemed appropriate for toll bridges but not for cobblers.<sup>13</sup>

Neither Darwinism nor marginalism were autonomous theories. Both collected their premises from a variety of disciplines; both rested on arguments developed over the course of a century or more; and both became tools often used for political ends. Whether either was right or wrong in the abstract is a matter of little consequence for the historian. Much more important is the fact that both provided numerous insights that helped the Progressive era policymaker organize his thoughts and view problems in a particular way. To the extent the technical arguments were viewed as convincing, they tended to form consensus among policymakers and gave democratic policymaking an underlying rationale apart from the unadorned preferences of participants.

Marginalism is one of those great, simple ideas that seems intuitively obvious once explained. In that sense marginalism is much like Darwin's theory of natural selection as a model for explaining evolution. For many years people knew that evolution must be true, but were unable to explain why.<sup>14</sup>

Marginalism originated from the writings of the English utilitarians. Of these, Jeremy Bentham examined utilitarianism's economic implications most carefully. Indeed, he came close to developing an economic theory of marginal utility as early as 1790, although his work was not widely appreciated as such. The notions of declining marginal utility of income and the value of marginal deterrence in criminal law were both developed in Bentham's *Principles* and his *Theory of Legis-*

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13. See Herbert Hovenkamp, *Enterprise and American Law, 1836-1937* 3-7 (Harvard, 1991).

14. Two of the most famous failures were Erasmus Darwin, *Zoonomia, or, The Laws of Organic Life* (T. & J. Swords, 1796) (Erasmus was Charles's grandfather) and Robert Chambers, *Vestiges of the Natural History of Creation* (Churchill, 1844).

lation.<sup>15</sup> Bentham did not come close to developing the theory of marginal cost, however, or theories of value based on marginalism.

Marginalism emerged as a coherent movement within economic theory in 1871, when Englishman William Stanley Jevons and Austrian Carl Menger, working separately, published books that sought to combine marginal utility theory with classical economics. Jevons's *Theory of Political Economy*<sup>16</sup> broke sharply with the classical tradition by disputing the nearly sacred notion that value depends on the amount of labor that has gone into something. According to Jevons, "value depends entirely on utility," which was a purely subjective notion and could be totally unrelated to the amount of previous investment.<sup>17</sup> His *Theory* developed the economic notion of diminishing marginal utility—the more of something a person already has, the less she will be willing to pay for an additional unit. From this Jevons developed the concept of equation of utilities—that a person applying her money to numerous commodities will purchase an amount of each up to the point at which she derives the same marginal utility from all.<sup>18</sup>

Carl Menger's *Principles of Economics*<sup>19</sup> was less influential in the United States than was Jevons's work because Menger stood outside the British classical tradition. However, a large number of American political economy students who went to Europe for graduate study in the late nineteenth century studied Menger.<sup>20</sup>

Under marginalism the economic theory of value became entirely subjective, based on the individual utility function rather than on any criterion that could be determined from the desired good itself or the

15. Jeremy Bentham, *An Introduction to the Principles of Morals and Legislation* (J.H. Burns and H.L.A. Hart, eds.) (Athlone, 1970); Jeremy Bentham, *The Theory of Legislation* (Trübner, 1864). See discussion in notes 60-64 and accompanying text.

16. Jevons, *Theory of Political Economy* (cited in note 3). Alfred Marshall also deserves part of the credit. See J.K. Whitaker, ed., *The Early Economic Writings of Alfred Marshall 2* (Macmillan, 1975). For a thoughtful perspective on the rise of marginalism, see D.E. Moggridge, *Maynard Keynes: An Economist's Biography* 84-86 (Routledge, 1992). John Bates Clark in the United States probably came to his marginalism independently. See John Bates Clark, *The Philosophy of Wealth*, chs. 4-5 (Ginn & Co., 1887); Joseph Schumpeter, *History of Economic Analysis* 870 (Oxford, 1954).

17. Jevons, *Theory of Political Economy* at 2 (cited in note 3) (emphasis omitted) (stating that "we have only to trace out carefully the natural laws of the variation of utility, as depending upon the quantity of commodity in our possession, in order to arrive at a satisfactory theory of exchange").

18. William S. Jevons, *Theory of Political Economy* 59-60 (Macmillan, 3d ed. 1888) (stating that "when the person remains satisfied with the distribution he has made, it follows that . . . an increment of commodity would yield exactly as much utility in one use as in another").

19. Carl Menger, *Principles of Economics* (Wilhelm Braumüller, 1871).

20. For a discussion of the influence of German historicism on Progressive Era economics, see Hovenkamp, 42 *Stan. L. Rev.* at 996-97 (cited in note 8); Ross, *American Social Science* at 104-05 (cited in note 2); Mary Furner, *Advocacy and Objectivity: A Crisis in the Professionalization of American Social Science, 1865-1905* 50-57 (Kentucky, 1975).

environment in which a choice was made. As a result, marginalism forced a shift in economics methodology from the measure of *goods* or the environment in which they were contained to the measure of human behavior. To state it differently, economics' basis of measurement moved from an essentially natural science model to a model based on presumed rationality or observed individual behavior. One no longer measured value by looking at the amount of a good that was available or the historical cost of producing it; one needed to measure individual willingness to pay for the good. The great marginalist Alfred Marshall knew that the whole notion of subjective preference meant nothing at all unless it could be measured behaviorally. Thus, one could speak meaningfully of consumer demand only "as represented by the schedule of the prices at which [one] is willing to buy different amounts of something."<sup>21</sup> In his highly influential eighth edition, Marshall wrote:

If then we wish to compare . . . physical gratifications, we must do it not directly, but indirectly by the incentives which they afford to action. If the desire to secure either of two pleasures will induce people in similar circumstances each to do just an hour's extra work, or induce men in the same rank of life and with the same means each to pay a shilling for it; we then can say that those pleasures are equal for our purposes, because the desires for them are equally strong incentives to action for persons under similar conditions.<sup>22</sup>

Within Anglo-American economics marginalism was undoubtedly the biggest revolution in thought since Adam Smith. Indeed, marginalism seems to explain so many problems faced by the classical political economists that its implications are still being explored more than a century after the concept was originally elaborated.

The principal problem faced by classical political economy had been to explain why people and firms produce and consume mixtures of goods, even though the goods appear to have widely different values. The classicists also struggled to explain value itself. Why is air cheap even though it is essential for survival? Why are diamonds expensive even though they are luxuries? A more technical problem also faced by the classical political economists had been identifying a "cost" and determining the relationship between the cost of a good or service and its value.

To illustrate some of these problems and their marginalist solutions, consider the person whose favorite experience is eating peach ice cream. Why doesn't this person purchase and consume tons of peach ice cream and nothing else? After all, he prefers a dollar's worth of peach ice cream to a dollar's worth of any other product. Such questions so vexed the classical political economists that they generally resorted to

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21. Alfred Marshall, *Principles of Economics* 158 (Macmillan, 1890).

22. Alfred Marshall, *Principles of Economics* 15-16 (Macmillan, 8th ed. 1920).



elaborate theories of objective value or "primary" goods, or to metaphysical explanations such as that people have a basic nature or biological structure that requires them to consume a particular mixture of goods. Such explanations were totally unhelpful, however, in explaining the manifold differences one could observe in the choices of different individuals. Classical political economy generally settled on the rather ambiguous notion that the value of a good was a function of its cost. But once again, that theory did not explain why different people placed widely different values on one unit of a good even though its cost was the same everywhere. Furthermore, pre-marginalist economics had only the poorest conception of what a "cost" really was; all costs had to be stated as either totals or averages, neither of which seemed determinative of profitability or rate of output.

In the case of the peach ice cream, the marginalist answer was so elegant and obvious that it appeared to be the key to almost every question about individual and social value. Even the person whose favorite experience is eating peach ice cream experiences declining marginal utility for it. The value of each additional quart of peach ice cream declines as he accumulates more. He will buy peach ice cream until the utility derived from the next unit of peach ice cream has fallen to a level equal to his marginal utility from some other good, such as broccoli. For example, suppose he obtains twenty utils<sup>23</sup> of utility from his first quart of peach ice cream. Saying that his favorite experience is eating peach ice cream is equivalent to saying that the value he places on this first unit of peach ice cream is greater than the value he places on the first unit of any other good. However, this person will not likely value a second quart of peach ice cream by quite as much as the first and almost certainly will not value the 100th quart as much as the first. Suppose he obtains twenty utils from the first quart of peach ice cream, eighteen utils from the second, sixteen from the third, and so on in linear fashion. By contrast, he obtains five utils from his first pound of broccoli, four from the second, and so on.

The classicists, not having the concept of marginal utility, observed only that the subject preferred peach ice cream to broccoli and were hard pressed to explain why he purchased any broccoli at all. The marginalists, by contrast, would draw remarkably precise conclusions from the above numbers. Assume that peach ice cream costs one dollar per quart, broccoli costs one dollar per pound, and the subject has ten dollars to spend. He would buy eight quarts of ice cream and two pounds of broccoli. Once he had seven quarts of ice cream the marginal utility from the next quart would be four utils. At that point an addi-

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23. A "util" is an imaginary unit of satisfaction.

tional dollar spent on a pound of broccoli would give him five utils of utility, but another quart of peach ice cream would produce only four. A utility maximizer would buy a pound of broccoli. Then, with two dollars left he would face three options. First, he could buy two additional quarts of ice cream, which would produce four utils from the first and two utils from the second for a total of six utils. Second, he could buy two additional pounds of broccoli, which would yield four utils and three utils, respectively, for a total of seven. Last, he could buy one additional quart of ice cream and one additional pound of broccoli, which would produce four utils each for a total of eight utils. Thus, he would buy one of each, giving him a total of eight quarts of peach ice cream and two pounds of broccoli.

Neoclassicism produced several important corollaries from the simple statement of marginalism described above. First, when people place value on goods that they consider purchasing, only the marginal value, not the total value, is relevant. Second, people tend to distribute utilities evenly over their entire set of purchasing decisions. Presumptively, every person's stock of goods is such that the marginal values the person places on these goods are all precisely identical. To the extent they are not, she corrects the situation the next time she purchases by buying whatever has the highest marginal value.

Third, business firms, whose goal is to maximize profits, also equalize marginal utilities, which they measure as marginal expenditures and marginal revenues. For example, in deciding what inputs to use in making a product, a firm maximizes its profits by using each input up to a point at which its marginal cost is identical to the marginal cost of every other input. If labor and machinery are alternative inputs and the current cost of labor is five dollars per unit of value produced but the current cost of machinery is four dollars per unit, a firm will invest in more machinery and less labor until the marginal costs of each are equalized. Likewise, in deciding what combination of products to produce, a firm produces each product up to the point at which the marginal profit from producing an additional unit of the product is equalized. Thus, for example, if a firm makes widgets and gidgets and additional gidgets can be sold at a profit of \$1.50 but additional widgets can be sold at a profit of one dollar, the firm will make relatively more gidgets and relatively less widgets. It will continue making this adjustment until the marginal profitability of each is the same or until the rate of widget production falls to zero, whichever occurs first.

Thus, marginalism provided economics with the basis for a general theory of consumer demand, a theory of value, a theory about production and consumption, and a theory of costs, all of which could be quantified with great apparent mathematical precision, although mea-

surement problems remained difficult. Because of marginalism, neoclassical economics became more coherent and rigorous than classicism had ever hoped to be.

As a theory about how people exercise preferences, marginalism seemed so powerful that people seldom questioned it. Some of its implications, however, were controversial and accepted either with great reluctance or not at all. For example, in economics marginalism holds that the rate of wages is a function of the marginal contribution that the laborer makes. If a particular laborer adds value of five dollars per hour to an employer's production, then "at the margin" the employer will be willing to pay the worker five dollars. He may pay less if he can, but as soon as wages rise above five dollars he will refuse to hire. This relatively simple notion displaced nearly a century of classical theory, which had concluded that the rate of wages was a function of previously invested capital. For many Progressive era policymakers, the move from the pre-marginalist "wage-fund" theory to the marginal productivity theory justified increased toleration for labor unions and even minimum wage legislation.<sup>24</sup>

Likewise, ever since John Locke the Anglo-American theory of property rights had placed a strong emphasis on labor. Private property had value precisely to the extent that a person had mixed nature's raw materials with his own labor. But as John Maynard Keynes noted in his student notes of 1905, previously expended labor has no impact on value if value is a function of marginal desire or willingness to pay.<sup>25</sup>

Perhaps the most serious problem facing advocates of marginalism at the turn of the century, the time when basic models for the social sciences were being formed, was that marginalism seemed to be based on a narrow view of humanity that did not take the theory of evolution into account. For example, Thorstein Veblen criticized marginalist economics for not being an "evolutionary" science.<sup>26</sup> That opening statement began a dialogue that continues to this day over whether neoclassical economics' vision of human choice is too narrow to give a realistic accounting of welfare.

### *B. The Relationship Between Marginalist and Darwinian Models*

During the 1950s and 1960s, American intellectual historians heavily reified Social Darwinism in their writing about the Gilded Age and

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24. See discussion in notes 155-160 and accompanying text.

25. See Robert Skidelsky, 1 *John Maynard Keynes: Hopes Betrayed, 1883-1920* 165 (Macmillan, 1983).

26. Thorstein Veblen, *Why is Economics Not an Evolutionary Science?*, 12 Q. J. Econ. 384 (1898).

the Progressive era.<sup>27</sup> Indeed, Social Darwinism is still the fashionable paradigm for explaining liberty of contract and the Supreme Court's general laissez-faire position after the turn of the century.<sup>28</sup>

Nonetheless, one viewing mainstream legal writing during this period is struck by the absence of explicit references to Social Darwinist rhetoric.<sup>29</sup> Historians have been quite willing to assign Darwinism as the cause of the legal revolution of the turn of the century, even though this theory has only the thinnest support in the writings of the period's legal scholars themselves. For example, even though Oliver Wendell Holmes's professional career stretched over more than sixty years, his writings include a scant half dozen references to Darwin, and even these are sufficiently ambiguous that scholars still debate whether Holmes was in fact a Social Darwinist.<sup>30</sup> A somewhat stronger case exists for tying Roscoe Pound to Reform Darwinism, but the record hardly suggests that Darwinism permeated his thought.<sup>31</sup> Although both Holmes and Pound undoubtedly were influenced by Darwinian ideas, a strong argument can be made that both thinkers were complex and did not automatically fall for the popular literary philosophies of the day.<sup>32</sup>

Darwin's principal contribution to evolution, an idea that long antedated his own time, was to cast the problem of the development of species in economic terms: because nature produces many more individuals than any given environment can support, they must compete with one another to survive. Only those best adapted to their particular environment survive long enough to have offspring. These lucky few then pass along the characteristics that enabled them to survive, and the process begins anew with the next generation. Darwinism, just like classical and neoclassical economics, began with the premise that resources are relatively scarce.

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27. See, for example, Robert Green McCloskey, *American Conservatism in the Age of Enterprise* 26-30 (Harvard, 1951); Richard Hofstadter, *Social Darwinism in American Thought* 60-63 and *passim* (Brazillier, 1959); Sidney Fine, *Laissez Faire and the General Welfare State* 84-85 (Michigan, 1964). Henry S. Commager, *The American Mind* 359-73 (Yale, 1950).

28. See, for example, Paul Kens, *Judicial Power and Reform Politics: the Anatomy of Lochner v. New York* 67-68 (Kansas, 1990).

29. See, for example, Arnold M. Paul, *Conservative Crisis and the Rule of Law: Attitudes of Bar and Bench, 1887-1895* (Cornell, 1960). Paul, while attributing the rise of laissez faire conservatism among lawyers to Social Darwinism, concedes that nearly none of the hundreds of lawyers' speeches that he read contained references to Herbert Spencer. *Id.* at 22-23 & n.10.

30. On the theory of evolution and Holmes, see Oliver Wendell Holmes, *Law in Science and Science in Law*, 12 Harv. L. Rev. 443, 449 (1899); Oliver Wendell Holmes, *Primitive Notions in Modern Law*, 10 Am. L. Rev. 422, 429-30 (1876). See also John Vetter, *The Evolution of Holmes, Holmes and Evolution*, 72 Cal. L. Rev. 343 (1984); E. Donald Elliott, *Holmes and Evolution: Legal Process as Artificial Intelligence*, 13 J. Legal Stud. 113 (1984).

31. See David Wigdor, *Roscoe Pound* 55-62 (Greenwood, 1974).

32. See Hovenkamp, 64 Tex. L. Rev. at 656-664 (Holmes) and 677-683 (Pound) (cited in note 2).

One should not push the analogies between Darwinism and economics too far, however, because there are stark differences between them, most of which emerged after the turn of the century. Most important, Darwinism originated in the natural sciences while marginalism originated in philosophy and economics. One consequence is that Darwinism identifies biological need as the source of preference and value, while marginalism generally ties its explanations to a concept of individual rationality. For the Darwinist, people are principally bodies, and the mind is part of the body; for the marginalist economist people are mainly minds, and the body is simply an appendage that stands to benefit from the choices that the mind makes.

This difference in emphasis—Darwinism on biological need and marginalism on rationality—explains the greatest divide between Darwinism and marginalism: their respective methodologies of scientific investigation. Darwinian models adopt biological theories of choice and attempt to prove those theories through the use of objective data about survival, health, welfare, and the like. To that end, Darwinian models are heavily empirical and rely on a great deal of data. By contrast, marginalism adopts rationalistic theories of choice and tends to prove them with observations of exercised preferences; thus, the marginalist's data tends to be subjective.<sup>33</sup> For example, if a Darwinian social scientist were asked to study the need for shelter, she would conduct medical studies about the impact that lack of adequate shelter has on the occurrence of illness, uncompleted pregnancies, fatigue, and the like. If a marginalist were asked the same question, he would attempt to determine how individual actors ranked shelter in their preference orderings. The Darwinian model generally asks "what do people need?" while the marginalist model inquires "what do people choose?" Further, under marginalism the presumed choice by a rational person often becomes the datum for analysis rather than a choice observed under restricted conditions.

Darwinian models tend to emphasize those things that make people the same—people are, after all, biological organisms of the same species responding to an environment that is more-or-less common to all. Although individuals might vary a great deal, those individuals that succeed against the odds tend to have important characteristics in common. By contrast, emphasis on individuality is set deep in marginalism.

Marginalism and Darwinism were so powerful that they quickly spilled over into other disciplines. Much has been written about the in-

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33. Paul A. Samuelson, *Consumption Theory in Terms of Revealed Preference*, 15 *Economica* 243 (1948).

fluence of Darwinism on the social sciences, philosophy, and literature. Much less has been written about the influence of marginalism. Indeed, intellectual historians have been inclined to see the entire Progressive revolution in the social sciences in Darwinian terms. They have assigned to Darwinism influences that more appropriately belong to marginalism. For example, although the era of liberty of contract often has been characterized as a triumph of Social Darwinism in American thought,<sup>34</sup> the doctrine reflects much more an economic, marginalist view of the world than a biological, Darwinian view.<sup>35</sup> Lester Frank Ward, a contemporary Darwinian and one of the Progressive critics of laissez-faire ideology, complained bitterly two years after *Lochner v. New York*<sup>36</sup> that the name "Social Darwinism" did not fit the ideology it was used to describe. "I have never seen any distinctively Darwinian principle appealed to in the discussions of 'Social Darwinism.' It is therefore wholly inappropriate to characterize as social Darwinism the *laissez-faire* doctrine of political economists."<sup>37</sup>

Another example is the American philosophy of Pragmatism, which is often explained in explicitly Darwinian terms.<sup>38</sup> The essence of Pragmatism is that human responses are situational—that is, driven by the immediate environment. Thus, Pragmatism naturally begins with the premise that human beings are evolving biological organisms whose most basic instinct is survival. As soon as Pragmatism reaches particulars, however, this basic instinct is stated in a much more precise fashion—not as survival generally, but as maximization of one's position in life.<sup>39</sup>

Darwinian and marginalist impulses simultaneously drove the modernization of legal ideas that took place after the turn of the century. If economics and the social sciences could not easily integrate the two and

34. See, for example, Kermit Hall, *The Magic Mirror: Law in American History* 190 (Oxford, 1989); Kens, *Judicial Power and Reform Politics* at 67-68 (cited in note 28). McCloskey, *American Conservatism* at 26-30 (cited in note 27); Hofstadter, *Social Darwinism* at 60-63 and *passim* (cited in note 27); Fine, *Laissez Faire* at 84-85 (cited in note 27); Commager, *The American Mind* at 359-73 (cited in note 27).

35. See Hovenkamp, *Enterprise and American Law* chs. 14-17 (cited in note 13).

36. 198 U.S. 45 (1905).

37. Lester F. Ward, *Social and Biological Struggle*, 13 *Am. J. Soc.* 289, 292 (1907) (emphasis in original), quoted in Carl N. Degler, *In Search of Human Nature: the Decline and Revival of Darwinism in American Social Thought* 12 (Oxford, 1991).

38. See, for example, Philip Paul Wiener, *Evolution and the Founders of Pragmatism* (Harvard, 1949).

39. For illustrations, see Elizabeth Flower and Murray Murphey, 2 *A History of Philosophy in America* chs. 9-11, 13-14 (Putnam, 1977) (discussing Chauncey Wright, C.S. Peirce, William James, George Santayana, and John Dewey). Important examples include Chauncey Wright, *The Evolution of Self-Consciousness*, 116 *N. Am. Rev.* 245 (1873). For expressly legal applications, see Fowler Vincent Harper, *Pragmatist Process in Law*, 41 *Int'l J. Ethics* 305 (28-31) (1930); Fowler Vincent Harper, *Some Implications of Juristic Pragmatism*, 39 *Int'l J. Ethics* 269 (1928).

make them pull in tandem, legal theory showed no such reluctance. In numerous areas legal thought began with the essentially Darwinian and fundamentally anti-economic premise that human beings are biological creatures whose preferences are determined by their environments, but then applied to these generic people a set of criteria based on the presumption that human beings "maximize" in the marginalist sense of the term.

In the process legal policymakers developed a broader, less purist attitude toward these two models of human behavior than did either economists or more Darwinian social scientists. Legal scholars were less hampered by methodological constraints under which the adoption of one model required the exclusion of the other. They often saw Darwinism and marginalism as analogues. The instinct to survive explained human values and actions in Darwinian social science, particularly in the writings of William James and John Dewey.<sup>40</sup> The desire to maximize one's satisfactions, by contrast, explained marginalism. At bottom the Darwinian statement was simply the gross version and the marginalist statement the more refined version of the same concept. The "survival instinct" in Darwinian social science was nothing other than the marginalist instinct to maximize one's satisfaction.

A few American Progressive economists advocated the use of Darwinian genetic models for economics. For example, when Veblen complained that neoclassical economics, unlike the other social science, was not "evolutionary," his picture of evolution was distinctly genetic.<sup>41</sup> As a result, economics, like the other social sciences, had to look at the more natural laws of the harder sciences.<sup>42</sup> During the 1910s and 1920s, several prominent American economists advocated looking to biological or environmental sources for information about the source of preference. This would enable economists to speak of the preferences of groups rather than of individuals.<sup>43</sup>

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40. See, for example, Flower and Murphey, 2 *History of Philosophy* chs. 11 (William James) and 14 (John Dewey).

41. Veblen, 12 Q. J. Econ. at 378-88 (cited in note 26).

42. For a more recent argument, see Jack Hirshleifer, *Economics from a Biological Viewpoint*, 20 J. L. & Econ. 1 (1977).

43. See, for example, John Maurice Clark, *Economics and Modern Psychology*, 26 J. Pol. Econ. 1, 7 (1918); John Maurice Clark, *The Concept of Value—A Rejoinder*, 29 Q. J. Econ. 709, 712 (1915); Wesley C. Mitchell, *The Rationality of Economic Activity*, 18 J. Pol. Econ. 97, 197 (1910); Wesley C. Mitchell, *Human Behavior and Economics: A Survey of the Literature*, 29 Q. J. Econ. 1, 2 (1914); Walton Hamilton, *The Institutional Approach to Economic Theory*, 9 Am. Econ. Rev. Supp. 316 (1919).

C. *Individualistic and Reform Impulses in Darwinism and Marginalism*

Most great ideas are fated to have mutually hostile followers. Thus the Hegelian left produced Karl Marx and the Hegelian right Adolph Hitler. Darwinism and marginalism were no exceptions.

Darwinism engendered a right-wing ideology, generally called Social Darwinism, that emphasized the individual in struggle with others for survival and that regarded the outcome of that struggle as essential for the betterment of the human race. Attempts to interfere in the struggle, such as through state redistribution of wealth, could lead only to retardation of the evolutionary process or perhaps even to degradation.<sup>44</sup>

By contrast, Reform Darwinists began with the observation that human beings, unlike the world's other organisms, know that they are involved in an evolutionary process and are therefore in a position to control it. Perhaps by manipulating the environment one could improve upon nature's own process. Reform Darwinists had only to look at selective breeding under domestication to prove their point. One of Darwin's most important contributions to evolutionary theory was his study of variation of species under domestication.<sup>45</sup> The study was designed to bolster the argument that the difference between natural selection and planned selection was the speed at which the process moved—the former taking millions of years to do what the latter did in a few generations. Darwin's purpose in writing it was to combat those who were unable to excise God from their biological world views—that is, those who accepted the basic selection paradigm but viewed it as divinely directed rather than purely random. The important thesis of Darwin's *Domestication* book was that when natural and planned selection are compared, the latter forces species to change much more quickly than the former. Furthermore, the farmer or stock breeder can breed selectively to produce the kinds of organisms he desires.

For Reformed Darwinists the policy conclusion was clear: if the state wants to accelerate the evolutionary process or control its direction, planned selection is the solution. As a result, the Progressive Reform agenda to hasten human improvement included such devices as sterilization of the unfit.<sup>46</sup> These Progressive social reformers were just as "Darwinist" as the Social Darwinists were, but their ideas spun off

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44. For general discussions, see Hofstadter, *Social Darwinism* (cited in note 27); Fine, *Laissez Faire* (cited in note 27); Commager, *American Mind* (cited in note 27).

45. Charles Darwin, *The Variation of Animals and Plants under Domestication* (John Murray, 1868).

46. See notes 104-08 and accompanying text.



the basic Darwinian paradigm in precisely the opposite direction. Because they believed that "artificial" selection could be better than "natural" selection, they had very strong ideas about the use of the state to interfere in natural forces.

Marginalism also inspired left- and right-wing movements. The earlier marginalists believed that interpersonal comparisons of cardinal utilities were a feasible and legitimate function of government. Further, because welfare was maximized when utilities were equalized, early marginalists believed that the state could make society wealthier by redistributing its wealth. Beginning in the 1890s, marginalism inspired a new social liberalism and statism in English economic thought.<sup>47</sup>

However, marginalism also inspired a right-wing reaction. For example, John Bates Clark repeatedly emphasized that the principle concern of marginalist analysis had to be incentives rather than outcomes. Incentives are maximized when each person receives precisely his marginal contribution to society, no more and no less. Minimum wage laws, unionization, and social welfare programs were inefficient attempts to give people more than they contributed.<sup>48</sup>

Right-wing marginalism triumphed within economic theory with the rise of ordinalism in the 1930s. Once interpersonal utility comparisons were proclaimed to be unacceptable science, the marginalist case for a social welfare state appeared to fall apart, and neoclassical economics took a very sharp turn to the right. Ordinalism generally carried the day in economic theory, at least as practiced in American universities. Eventually it won out in most areas of legal analysis as well. The result was to strengthen greatly the economic case for the unregulated market and to undermine the economic case for the social welfare state.<sup>49</sup>

To justify its conclusions about interpersonal noncompatibility of utilities, the marginalist right had to divorce marginalism from Darwinism. Thus, in modern economics the important fact is that people make choices, not that they are biological organisms with certain genetically produced needs. Economists seldom ask what the source of human preference is. For the ordinalist getting behind the preferences is simply not a part of economic science. *De gustibus non est disputandum*.<sup>50</sup>

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47. See Hovenkamp, 42 Stan. L. Rev. at 1000-1002 (cited in note 8). See also notes 53-56 and accompanying text.

48. See John Bates Clark, *The Distribution of Wealth; A Theory of Wages, Interest and Profits* (Macmillan, 1899); John Bates Clark, *The Law of Wages and Interest*, 1 Annals, Am. Acad. Pol. & Soc. Sci. 43 (1890); John Bates Clark, *Possibility of a Scientific Law of Wages*, 4 Pub. Am. Econ. Assn. 37 (1889).

49. See Hovenkamp, 42 Stan. L. Rev. at 1033-1038 (cited in note 8).

50. That is, there is no disputing among tastes. But see George J. Stigler and Gary S. Becker, *De gustibus non est disputandum*, 67 Am. Econ. Rev. 76 (1977) (arguing that economics should

The gap between pre-ordinalist and ordinalist marginalism is wide, particularly with respect to welfare policy. The former viewed classical utilitarianism as a device for determining social welfare. As such it generally required interpersonal utility comparisons.<sup>51</sup> Pre-ordinalist marginalism generally justified these judgments with essentially Darwinian arguments that people's "utility functions" for primary goods are essentially the same because they have developed in response to a common environmental situation. By contrast, the ordinalists lost their concern with the source or nature of preferences and proclaimed them to be noncomparable.

## II. MARGINALISM IN AMERICAN LEGAL THOUGHT

Marginalism worked its way into American law in the late decades of the nineteenth century and the early decades of the twentieth, about the same time that Darwinism became an important intellectual force in the law. The marginalist revolution in legal thought developed in three broadly defined but distinct areas. First, the marginalist revolution had a strong impact on the welfare agenda of the Progressive era. The notion that social welfare would be maximized when marginal utilities were equalized, coupled with the idea that interpersonal utility comparisons were possible and appropriate, was thought to justify rather broad policies of transferring wealth by legislation. Although these theories became formalized in neoclassical economics in the late nineteenth century, they were well-developed in work by Jeremy Bentham that had been generally overlooked in American writing to that time.

In his theory of legislation, Bentham outlined a broad program of wealth redistribution based on marginal utility theory, which allowed interpersonal comparisons. For example, Bentham observed that although people acquire more absolute happiness from additional wealth, the proportion of happiness increases more slowly than the proportion of wealth. To cast this observation into marginalist idiom, people experience declining marginal utility of income. As a result, argued Bentham, as wealth became equalized, total social happiness would increase. Again, although Bentham did not use the term "marginalism," he undoubtedly was thinking in marginalist terms, for he spoke of the distribution of "new wealth," that is, of the marginal increment:

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take the position that efficient consumers with perfect information will in fact develop identical tastes or, at least, that economists should treat them as if they do).

51. For example, one cannot identify the worst off individual in John Rawls's *Theory of Justice* without engaging in interpersonal utility comparisons. See John Rawls, *A Theory of Justice* 150-58 (Harvard, 1971); Kenneth J. Arrow, *Some Ordinalist-Utilitarian Notes on Rawls's Theory of Justice*, 70 *J. Phil.* 245 (1973).

“Among participants of unequal fortunes, the more the distribution of new wealth tends to do away with that inequality, the greater will be the total mass of happiness.”<sup>52</sup> From this principle, Bentham drew the corollary that “the greater the number of persons among whom a loss is shared, the less considerable will be the defalcation from the sum total of happiness.”<sup>53</sup> That is, given declining marginal utility of income, interpersonally comparable utilities, and equal wealth, assigning a five dollar loss to one person would produce greater unhappiness than assigning a one dollar loss to each of five different people. Each successive dollar taken from a person’s wealth would produce a larger consequence than the previous dollar. The result was a system of social insurance in which catastrophic individual losses were to be spread over the members of society.<sup>54</sup>

The marginal utility economists of the late nineteenth century refined Bentham’s observations and quantified them, but their message was basically the same. If the involuntary transferors were wealthy, their marginal utility for money would be relatively small; if the transferees were poor, their marginal utility would be high. If such a transfer itself had no social cost or impact on total wealth,<sup>55</sup> it would increase the total utility level. During the Progressive Era economists turned marginal utility theory into a broad-based economic argument for state control of resource allocation and redistribution of wealth. This argument for forced wealth redistribution, which was accepted in one form or another by prominent neoclassical economists like Alfred Marshall and Arthur C. Pigou in England and Richard T. Ely in the United States, dominated the Progressive welfare agenda until its foundations were undermined by the ordinalist critique of the 1930s.<sup>56</sup>

Ordinalism asserted that Progressive welfare judgments required unscientific, impermissible interpersonal utility comparisons. That is, one might be able to show that for any individual the marginal value of her millionth dollar is less than the marginal value of her first; however, that fact says nothing about whether a wealth transfer from millionaire A to pauper B would increase welfare because there is no way of establishing that A and B have the same or even similar utility functions. A might very well receive more utility from his millionth dollar than B

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52. Bentham, *Theory of Legislation* at 105 (cited in note 15) (emphasis omitted).

53. *Id.* at 106.

54. *Id.* at 107-08.

55. Negative effects such as these would result if (1) the transaction costs of the transfer were substantial, (2) the transfer had negative effects on incentives to produce, or (3) the transfer had harmful effects on third parties.

56. See generally Hovenkamp, 42 *Stan. L. Rev.* 993 (cited in note 8).

receives from her first.<sup>57</sup> This important attribute of Progressive legislative policy has been recounted before, and I will not repeat it here.<sup>58</sup>

Second, marginalism encouraged the further development of theories of criminal and civil liability based on marginal deterrence. Once again, an important but often unacknowledged source of the theories was Bentham, who had developed a set of rules for proportioning punishment to offenses that were based strictly on a comparison of the marginal gains from the offense and the marginal losses from the punishment. Bentham's first rule of punishment was that "[t]he evil of the punishment must be made to exceed the advantage of the offence."<sup>59</sup> His second rule was "[t]he more deficient in certainty a punishment is, the severer it should be."<sup>60</sup> The most clearly marginalist of Bentham's rules was his third: "[w]here two offences are in conjunction, the greater offence ought to be subjected to severer punishment, in order that the delinquent may have a motive to stop at the lesser."<sup>61</sup> As Bentham explained: "A highwayman may content himself with robbing, or he may begin with murder, and finish with robbery. The murder should be punished more severely than the robbery, in order to deter him from the greater offence."<sup>62</sup>

In the Fourth Part of his *Theory of Legislation*, Bentham developed more elaborate rules for giving effect to these utilitarian theories, including how to diminish the uncertainty of prosecutions and punishment<sup>63</sup> and how to improve people's knowledge of the relevant law and facts.<sup>64</sup> Except for the technical notation, Bentham had developed fully an economic theory of crime and punishment similar to that applied in law and economics today.<sup>65</sup>

These theories reemerged simultaneously in Progressive social science and Progressive legal theory. For the marginalist law's only rele-

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57. Robbins, *Nature and Significance of Economic Science* at 123-24 (cited in note 10).

58. See Hovenkamp, 42 *Stan. L. Rev.* at 1000-1013. See also Arthur Ekirch, Jr., *Progressivism in America: A Study of the Era of Theodore Roosevelt to Woodrow Wilson* chs. 5-7 (New Viewpoints, 1974).

59. Bentham, *Theory of Legislation* at 325 (cited in note 15) (emphasis omitted). Bentham made quite clear that he was speaking of incentives operating at the margin: "[T]o prevent an offence, it is necessary that the repressive motive should be stronger than the seductive motive." *Id.*

60. *Id.* Said Bentham, "In all cases of offence there is a calculation of the chances for and against; and it is necessary to give a much greater weight to the punishment, in order to counter-balance the chances of impunity." *Id.* at 326.

61. *Id.* at 326 (emphasis omitted).

62. *Id.*

63. *Id.* at 419-22.

64. *Id.* at 402-14, 445-49.

65. See, for example, Gary S. Becker, *Crime and Punishment: An Economic Approach*, 76 *J. Pol. Econ.* 169 (1968).

vant concern was external conduct. Penalties had to be assessed in such a manner that provided appropriate sanctions for disapproved conduct yet did not discourage beneficial conduct. This was the principal marginalist message of Holmes's *The Common Law*, a book whose general outlook on legal policy was far more marginalist than it was Darwinian.<sup>66</sup>

Finally, and most technically, marginalism had a powerful impact on legal theories of value, an area that had always vexed the classical economists. The marginalist answer, as described above, was simple and elegant. It was also scientific in the sense that it attempted to separate concepts of value from natural law. Finally, it was behaviorist in the sense that it divorced value from previous investment, which had no impact on current behavior. Value was a function of marginal willingness to pay, nothing more. The result of this transformation, however, was that the concept of value became forward- rather than backward-looking and became more concerned with potential for growth than previous commitment. This conceptual change had a remarkable impact on the legal valuation of certain property rights. One area was the displacement of the wage-fund theory by the marginal productivity theory of wages.<sup>67</sup> Another was an important change in corporate finance theory concerning the appropriate mechanism for valuing corporate shares.<sup>68</sup>

Another influence of marginalism was the Progressive era expansion of the concept of property from land or physical objects to various intangibles.<sup>69</sup> The focus, quite simply, shifted from a regime that identified legally recognized property on the basis of previously committed investment, occupancy, or discovery, to one that identified property

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66. See discussion in notes 150-52 and accompanying text.

67. Marginalism also played an important role in other developments in the law, which this Article will not explore in any detail. One was the development of new concepts of economic coercion in antitrust and labor law. Within the classical paradigm people were thought to be free to make economic choices unless they were actually forbidden or contractually excluded from making them. By contrast, the neoclassical paradigm developed the much more subtle concepts of surplus and reservation price for measuring the coercive force of such practices as cartels, labor unions, and concerted refusals to deal. Under marginalist models a person could be "coerced" even though the form of the coercion was simply a higher asking price. The result was that both antitrust and labor law developed a growing hostility toward ever more subtle restraints that interfered with the market. See Hovenkamp, *Enterprise and American Law* at 268-95 (cited in note 13).

68. See notes 161-221 and accompanying text.

69. See Kenneth J. Vandavelde, *The New Property of the Nineteenth Century: The Development of the Modern Concept of Property*, 29 *Buff. L. Rev.* 325 (1980). The leading Progressive Era marginalist who incorporated this change in his writing on law and economics was John R. Commons. See John R. Commons, *Legal Foundations of Capitalism* (Macmillan, 1924); Hovenkamp, 42 *Stan. L. Rev.* at 1025-31 (cited in note 8).

with the captured ability to earn future profits.<sup>70</sup> Another was the rise of a "neoclassical" conception of contract law, which replaced the Langdellian view that contract law was simply a method for enforcing agreements respecting the exchange of previously acquired entitlements. Rather, contracts came to be viewed as establishing ongoing, jointly maximizing relationships between the parties in which each was unable to predict the future perfectly.<sup>71</sup> Still another development was the emerging debate in the law of regulated industries over whether capital should be evaluated on the basis of historical cost or alternative measures, which included capacity to earn a profit or replacement cost.<sup>72</sup>

The culmination of the marginalist revolution in law was the Coase Theorem<sup>73</sup> and the development of the modern law and economics movement—a revision of legal theory that is vehemently anti-Darwinian and promarginalist in its outlook on the origins and significance of human motives and actions. One thesis of this Article is that the marginalist revolution in legal thought long antedates the rise of the modern law and economics movement.

#### A. *Marginalism and American Legal History*

The relation between American law and the theory of evolution has been the subject of an enormous literature that stretches back to the beginning of this century and even earlier.<sup>74</sup> By contrast, the historical

70. See Morton J. Horwitz, *The Transformation of American Law, 1870-1960: The Crisis of Legal Orthodoxy* 145-46 (Oxford, 1992).

71. See principally Ian R. Macneil, *Contracts: Adjustment of Long-Term Economic Relations Under Classical, Neoclassical, and Relational Contract Law*, 72 Nw. U. L. Rev. 854 (1978); Charles J. Goetz and Robert E. Scott, *Principles of Relational Contracts*, 67 Va. L. Rev. 1089 (1981). For a preliminary historical account, see Jay M. Feinman, *Critical Approaches to Contract Law*, 30 UCLA L. Rev. 829, 830-36 (1983).

72. See, for example, Robert L. Hale, *Rate Making and the Revision of the Property Concept*, 22 Colum. L. Rev. 209 (1922) (arguing that, although replacement cost or capacity to earn a profit was the proper measure of valuation for unregulated industries in cases involving eminent domain and the like, in the area of price regulated utilities the appropriate rule was historical cost). See also Robert L. Hale, *The "Physical Value" Fallacy in Rate Cases*, 30 Yale L. J. 710 (1921); Robert L. Hale, *Valuation and Rate-Making*, 80 Colum. Univ. Studies in Hist., Econ. and Pub. L. (1918). Several price regulated utilities attempted to state their value at replacement cost rather than historical cost and thus ran the risk of being found guilty of stock "watering." See, for example, *Ohio & Colo. Smelting & Refining Co. v. Public Util. Comm'n of Colo.*, 187 P. 1082 (Colo. 1920). On the watered stock controversy, see notes 160-210 and accompanying text.

73. Ronald H. Coase, *The Problem of Social Cost*, 3 J. L. & Econ. 1 (1960).

74. See Hovenkamp, 64 Tex. L. Rev. 645 (cited in note 2); Margaret Gruter and Paul Bohannan, eds., *Law, Biology & Culture: The Evolution of Law* (Ross-Erickson, 1983); E. Donald Elliott, *The Evolutionary Tradition in Jurisprudence*, 85 Colum. L. Rev. 38 (1985); Elliott, 13 J. Legal Stud. 113 (cited in note 30); Robert W. Gordon, *Critical Legal Histories*, 36 Stan. L. Rev. 57 (1984); Jack Hirshleifer, *Evolutionary Models in Economics and Law*, 4 Res. L. Econ. 167 (1982); Robert C. Clark, *The Interdisciplinary Study of Legal Evolution*, 90 Yale L. J. 1238 (1981); Rich-

impact of marginal utility theory on the law has been largely ignored.<sup>75</sup> The principal exceptions are the studies of the English utilitarians, which generally deal with utilitarianism as a classical British philosophy rather than as a way of organizing economics.<sup>76</sup> Nonetheless, the economic model explains more of the jurisprudential revolution of the Progressive Era than does the biological model associated with Darwin.

Why has Darwinism achieved so much more notoriety than marginalism? Part of the answer is that the Darwinian model drew the line between the old and the new with such ferocity. As a result, the story of the Darwinian revolution provides an intellectual excitement that the more technical story of marginalism cannot match. The theory of natural selection produced biological images that threatened both the traditional view of the nature of humanity and traditional Christian beliefs.

Ultimately marginalism's depiction of human nature is probably as inconsistent with traditional Christian ethics as the Darwinian view. Nevertheless, at the turn of the century, marginalism did not appear to conflict with traditional Christian beliefs in the way Darwinism did.<sup>77</sup> William Jennings Bryan and the American fundamentalists were never

ard A. Epstein, *The Static Conception of the Common Law*, 9 J. Legal Stud. 253 (1980); George L. Priest, *The Common Law Process and the Selection of Efficient Rules*, 6 J. Legal Stud. 65 (1977); Paul H. Rubin, *Why is the Common Law Efficient?*, 6 J. Legal Stud. 51 (1977). See also Peter Stein, *Legal Evolution: the Story of an Idea* (Cambridge, 1980); Paul L. Rosen, *The Supreme Court and Social Science* (1972) (especially Chapter Two: "Social Darwinism in the Law and the Rise of Sociological Jurisprudence").

For some of the most important historical sources, see Frederick Pollock, *Essays in the Law* 10-11 (Macmillan, 1922) (discussing the influence of Darwin on legal history); Henry S. Maine, *Ancient Law: Its Connection with the Early History of Society and its Relation to Modern Ideas* (J. Murray, 1861). See also Jacob H. Landman, *Primitive Law, Evolution, and Sir Henry Sumner Maine*, 28 Mich. L. Rev. 404 (1930); James Coolidge Carter, *Law: Its Origin Growth and Function* (G. P. Putnam's Sons, 1907); Roscoe Pound, *The Scope and Purpose of Sociological Jurisprudence*, 24 Harv. L. Rev. 591, 598-604 (1911); Lewis Henry Morgan, *Ancient Society* 525-50 (Holt, 1877). The most elaborate Progressive era study of the relation between law and evolution is Albert Kocourek and John H. Wigmore, eds., *Evolution of Law: Select Readings on the Origin and Development of Legal Institutions* (3 vols. 1915-1918.).

75. There have been only a limited number of historical studies of marginalism in economics. See, for example, George J. Stigler, *The Development of Marginal Utility Theory*, I, 58 J. Pol. Econ. 307 (1950); R.D. Collison Black, A.W. Coats, and Craufurd D.W. Goodwin, eds., *The Marginal Revolution: Interpretation and Evaluation* (Duke, 1973); *Symposium on the Marginalist Revolution*, 4 Hist. Pol. Econ. (1972).

76. See, for example, Gerald J. Postema, *Bentham and the Common Law Tradition* (Oxford, 1986).

77. For studies on Darwinism and Christian beliefs in the United States, see Charles Hodge, *What is Darwinism?* (T. Nelson & Sons, 1874) (in which the author, a Presbyterian theologian, attacks Darwin); Joseph LeConte, *Evolution, Its Nature, Its Evidences, and Its Relation to Religious Thought* (Appleton, 1897) (attempting to synthesize Darwin and liberal religion). See generally George M. Marsden, *Fundamentalism and American Culture: the Shaping of Twentieth Century Evangelicalism, 1870-1925* (Oxford, 1980).

up in arms over marginalism, nor did they pass legislation against teaching it in the schools. In this positivistic age being scientific meant being able to escape from traditional Christian values, and choosing Darwinism represented an explicit turn away from myth toward the scientific in a way that marginalism did not. For historians in the Progressive liberal tradition, who generally have dominated the historical writing on the Progressive Era, the transformation of fundamental values wrought by the theory of evolution has always been too attractive to avoid.

Nevertheless, the same drama that has attracted historians to Darwinism suggests that marginalism may have been a greater contributor to the process of Progressive Era thought. The marginalist revolution was more technical than was the Darwinian revolution. Indeed, much of the Darwinian revolution in the social sciences was rhetorical rather than methodological. Darwinism contributed in an important way to one's metaphysical or moral understanding of the essential nature of humanity and supplied a revisionist way of thinking about the relationship between human beings and their environment. It did little, however, to help construct explicit models for explaining or predicting human behavior or its consequences in particular settings. As a result, Darwinism shows up much more in popular literature, which describes what social science is like, than in technical literature, which represents how social science is done.<sup>78</sup> Once the questions become specific, Darwinian generalities give way to the greater precision facilitated by marginalist models.

Today, it seems fair to say that, just as we are all evolutionists and legal realists, so too we are all marginalists. In some areas, such as the modern law and economics movement, marginalism has become an explicit part of legal doctrine, and one does not need to look very hard to find evidence of it elsewhere. Nevertheless, marginalism has been greatly underrated in the history of legal ideas.

### B. *The Nature of Neoclassical Legal Thought*

The term "classical legal thought" refers to a conceptualization of law and a body of legal rules that prevailed in America during the nineteenth and early twentieth centuries. At that time, its jurisprudential foundations were attacked, first by Progressives and later by legal real-

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78. See Hovenkamp, *Enterprise and American Law* at 99-101 (cited in note 13). See also Robert C. Bannister, *Social Darwinism: Science and Myth in Anglo-American Social Thought* (Temple, 1979); Donald Bellomy, *Social Darwinism Revisited*, 1 *Persp. Am. Hist. (n.s.)* 1 (1984).



ists.<sup>79</sup> The classical legal system relied mainly on common-law rules, justified by their use in facilitating economic development. Regulatory statutes were reserved for a few areas in which traditional markets were thought to work poorly. Classical legal thought was both strenuously individualistic and fiercely private, in the sense that it strove to reserve the largest possible arena for private markets and individual decision making unhampered by the state's coercive power. For that reason certain elements of classical legal thought, such as its constitutionalization of liberty of contract in the late nineteenth century, have been identified by intellectual historians with Social Darwinism.<sup>80</sup> A much stronger argument, however, is that classical legal thought closely followed the work of the classical political economists, who supplied the theoretical economic rationalizations for the classical legal vision of the relationship between the individual and the state.<sup>81</sup>

As a general matter, the term "neoclassical" has not been applied to a particular era of American jurisprudence. By contrast, there is a robust tradition of neoclassical economic thought. Indeed, the neoclassical period in Anglo-American economic thought, which has continued roughly from 1870 through the present, has been, by at least some measures, longer than the classical period, which lasted from 1776 until 1870.

In the late nineteenth century Darwinism and marginalism were two models of the relationship between humanity and the environment that were sometimes complementary, but often conflicting. Legal thinkers chose selectively among dominant cultural views. They managed to accommodate both models, sometimes in combination, sometimes one to the exclusion of the other. Eventually the expressly Darwinian elements in that legal framework began to be suppressed or submerged under the rhetoric of marginalist economics, in which effects "at the margin" became the focal point of policy analysis. This legal tradition, which has culminated in the modern law and economics movement, is best denominated "neoclassical."

### C. *Marginalism, Darwinism, and Liberty of Contract*

Liberty of contract was one of the most pervasive ideas in nineteenth century Anglo-American jurisprudence. Far more than a theory about contract law, liberty of contract was the *raison d'être* of civil gov-

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79. For a general study of classical legal thought, see Horwitz, *Transformation of American Law* ch. 1 (cited in note 70). For a study of the relation between classical legal thought and classical political economy, see Hovenkamp, *Enterprise and American Law*.

80. See, for example, Commager, *American Mind* at 373 (cited in note 27).

81. See Hovenkamp, *Enterprise and American Law* at 99-101.

ernment according to Locke, Hume, Rousseau, and Blackstone and, indeed, for the very democratic ideal that government is a product of the "consent" of the governed.<sup>82</sup> The concept originated even before the publication of Adam Smith's *Wealth of Nations* in 1776.<sup>83</sup> In his *Ancient Law* the great nineteenth century legal historian Sir Henry Maine identified the emergence of modern law with the movement of societies away from "status" and toward "contract" as the basis for social ordering. Indeed, Maine found that the influence went in the direction opposite from what one might normally suppose. Only after the legal conception of contract arose, Maine argued, could classical political economy come into existence—for economics needed an institution to analyze. In short, lawyers, not economists, first discovered the market.<sup>84</sup>

The heyday of liberty of contract in American law was the substantive due process era, stretching from the 1880s through the 1930s, when American courts used the doctrine to expand the right of private bargaining by limiting the power of the sovereign to interfere.<sup>85</sup> This particular manifestation of liberty of contract often has been identified with Darwinism, particularly with Social Darwinism. Indeed, Progressive critics considered liberty of contract and Social Darwinism to be two sides of the same coin.<sup>86</sup>

But liberty of contract is not as much a biological or anthropological doctrine as it was an economic one. Furthermore, its pedigree long antedated the work of either Charles Darwin or Herbert Spencer, the father of Social Darwinism. To be sure, Social Darwinism and liberty of contract are similar: both stand for the proposition that people would be better off if the state declined to interfere in the struggle for existence. The important similarities end there. Social Darwinism is based on an essentially noncooperative philosophy, while the economic defense of contract, whether classical or neoclassical, is based on cooperation.

Under the model of natural selection, each person competes with his neighbor for the same niche and the strongest prevails. If the con-

82. See P. S. Atiyah, *The Rise and Fall of Freedom of Contract* 36-60 (Oxford, 1979).

83. Atiyah, *Freedom of Contract* at ch. 4.

84. Maine wrote:

It is certain that the science of Political Economy, the only department of moral inquiry which has made any considerable progress in our day, would fail to correspond with the facts of life if it were not true that Imperative Law had abandoned the largest part of the field which it once occupied, and had left men to settle rules of conduct for themselves with a liberty never allowed to them till recently.

Maine, *Ancient Law* at 296 (cited in note 74).

85. Useful terminal points are *In re Jacobs*, 98 N.Y. 98 (1885) (first substantial state recognition); *Allgeyer v. Louisiana*, 165 U.S. 578 (1897); *Lochner v. New York*, 198 U.S. 45 (1905) (first federal recognition); and *West Coast Hotel v. Parrish*, 300 U.S. 379 (1937) (effective repudiation).

86. See authorities cited in note 9.

cept of "agreement" means anything, it means that two organisms might cooperate for their mutual advantage, but if one later violates the agreement, there is no state to call upon to enforce it. Marginalism, not Darwinism, provides the basic framework for showing that contracting behavior can be mutually advantageous for two bargaining parties in the sense that it permits each to obtain more utility than he had previously. Social Darwinism simply fails to accommodate such a theory of mutual cooperation. To be sure, Reform Darwinism, with its revitalized view of social planning, values such cooperation highly, but liberty of contract is hardly the doctrine of Reform Darwinism; indeed, in the nineteenth century, it was the Reform Darwinists' foil for a relentless criticism of legal orthodoxy.<sup>87</sup>

### III. MARGINAL DETERRENCE AND LEGAL THEORY

#### A. *Law and Social Control in Progressive Sociology*

Progressive era social science was often expressly Darwinian. But it was also marginalist, and one must take care to distinguish the two models. For example, the Progressives' most important contribution to sociology was the concept of "social control"—the notion that environmental and cultural, rather than individual, factors impose an order on society and that at least some of these factors can be manipulated. Edward A. Ross, the sociologist whose pioneering book on social control was published in 1901,<sup>88</sup> was also a close student of marginalist economics and marginal utility theory.<sup>89</sup> Social control, as he envisioned it, was the use of social rules to change incentives at the margin. Having identified a set of outcomes as moral or just, society could then legislate rewards and punishments to encourage generally selfish people to engage in behavior that would produce those outcomes. Ross's man was almost infinitely malleable given the proper set of incentives, be they the church, the market, education, or the law. Ross's work both reflected and shaped the Progressive liberal belief that the improvement of humanity could be a realistic result of direct intervention in the human environment.

Like most Progressives, Ross did not believe in the Lamarckian theory that characteristics acquired by an organism during its lifetime could be inherited by its offspring. As a result, he distinguished social control, which was an ongoing enterprise, from control by forced selective breeding. Only the latter eventually could produce a race that

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87. See, for example, Roscoe Pound, *Liberty of Contract*, 18 Yale L. J. 454 (1909).

88. Edward A. Ross, *Social Control: A Survey of the Foundations of Order* (Macmillan, 1922).

89. See Ross, *American Social Science* at 176-80 (cited in note 2).

might at some future time have no need for social control. But Ross, like Darwin, rejected the notion that acquired characteristics could be inherited:

The only thing that can enable society to dispense with control is some sort of favorable selection. The way to create a short-clawed feline is not to trim the claws of successive generations of kittens, but to pick out the shortest-clawed cats and to breed from them. Similarly it is only certain happy siftings that can shorten the claws of man. . . . It is processes like these, affecting the relative birth-rates or death-rates of the social and the anti-social classes, which solve the problem of order in such a manner that it *stays* solved. Mere control, on the other hand, is, like sustentation or defence, something that must go on in order that society may live at all. . . . The equilibrium achieved is perpetually disturbed by changes in the *personnel* of the group, and hence perpetually in need of being restored by the conscious, intelligent efforts of society.<sup>90</sup>

Social control, then, was not a device for developing a better race; it was a device for creating incentives or disincentives for the individual. This particular element of the social science revolution was marginalist, not Darwinian, and it was this element that was most central to the transformation in legal thinking that took place during the Progressive Era. The chief purpose of legal rules was seen, not as producing a better race, but as giving people a set of incentives to do what society wanted them to do.

Although this view of the function of sociology put Ross at odds with some important Progressive social thinkers of his day, it became dominant later in the Progressive Era. Thanks to work by August Weismann and others,<sup>91</sup> few people doubted that the Lamarckian evolutionary theory of inheritance of acquired characteristics was dead. As a result, humanity could not be permanently improved by improving the individual, but only by selecting those individuals who should be encouraged to produce offspring and those who should not be. This explains the great influence of eugenics in Progressive theory. The consensus that emerged, however, was that work in selective breeding, such as that done by Francis Galton, should be reserved for people on society's outer boundaries—criminals and the mentally defective. The rest of sociology should concentrate on the improvement of the individual. Sociologists such as Charles Horton Cooley described these two strains of thinking as “biological sociology” and “psychological sociol-

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90. Ross, *Social Control* at 60-61.

91. Weismann was among the first to show to the satisfaction of social scientists that characteristics acquired during one's lifetime could not be passed on to one's offspring through genetic means. See Degler, *Decline and Revival of Darwinism* at 22 (cited in note 37); Peter J. Bowler, *The Eclipse of Darwinism: Anti-Darwinian Evolution Theories in the Decades around 1900* at 60-66 (Johns Hopkins, 1983).

ogy."<sup>92</sup> His racism notwithstanding, Ross's general theory of social control belonged in the latter category.<sup>93</sup>

Ross believed that the most specialized and effective engine of social control was the law.<sup>94</sup> As such, law's only legitimate purpose was deterrence.<sup>95</sup> Furthermore, optimal deterrence had to be marginal: "A scientific penology [would] graduate punishments primarily according to the harmfulness of the offence to society, and secondarily, according to the attractiveness of the offence to the criminal."<sup>96</sup> Punishment had to be public and ceremonial in order to have the maximum general deterrent effect.<sup>97</sup>

Coupled with his strongly psychological theory of human social control, however, Ross had a theory of cultural evolution that was based on a kind of natural selection in which the "inheritance" of acquired characteristics played an important part. Tools, works of art, opinions, habits, and manners also are thrown into the cultural pot in numbers far greater than society can accommodate. A few are found by members of society to be attractive, and their makers are rewarded. Others are forgotten or suppressed. In a chapter on the "Genesis of Ethical Elements," Ross described how "some of the ideas that are set afloat circulate readily, while others meet with difficulties in passing from man to man, and, like bad pennies, are always being rejected."<sup>98</sup> This theory of cultural, as opposed to biological, evolution contained both marginalist and Darwinian elements. It was marginalist in the sense that it explained why people have an incentive to create good and useful tools and ideas and a disincentive to create bad ones. It was Darwinian in that it revealed a type of social progress based on natural selection. The result was a sociological theory that merged the prevailing evolutionary and marginalist theories, just as the theory of cultural anthropology was beginning to do.<sup>99</sup>

92. Charles Horton Cooley, *Social Organization: A Study of the Larger Mind* 296 (Charles Scribner's Sons, 1909).

93. Much of the debate over "psychological" versus "biological" sociology focused on the role of economics in sociology, with the economists arguing that only the former kind of sociology was legitimate. See Simmon Patten, *The Failure of Biological Sociology*, 4 *Annals, Am. Acad. Pol. & Soc. Sci.* 919 (1894); Simmon Patten, *The Relation of Economics to Sociology*, 5 *Annals, Am. Acad. Pol. & Soc. Sci.* 577 (1895); Franklin H. Giddings, *Utility, Economics and Sociology*, 5 *Annals, Am. Acad. Pol. & Soc. Sci.* 398 (1894).

94. Ross, *Social Control* at 106 (cited in note 88).

95. Ross said that for "afflictive punishment the sole justification known to the social scientist is its deterrent effect." *Id.* at 108.

96. *Id.* at 110 (emphasis omitted).

97. *Id.* at 112.

98. *Id.* at 345.

99. See, for example, Edward Burnett Tylor, *Primitive Culture* (1871); *Ancient Society* (cited in note 74).

### B. Deterrence: Marginalist and Darwinian Alternatives

Beginning with Holmes in the 1870s, an outpouring of literature advocated theories of civil and criminal liability that emphasized the role of law in regulating future behavior rather than in punishing a previous wrong or compensating victims. This deterrence revolution in legal theory has been closely identified with the American philosophy of pragmatism and characterized as Darwinian,<sup>100</sup> but in most areas the marginalist model supplies a much better fit.

First of all, the rise of deterrence-based theories of legal liability requires recognition that the source of law is sovereign policy, not individual will. The state decides what kind of conduct is inappropriate and then gives people a set of incentives and disincentives to do what is right and avoid what is wrong. This model is distinctly opposed to Social Darwinism, which views the state's optimal role as one of noninterference in private relationships.

Second, the kind of deterrence that most Progressive era legal theory envisioned was behavioral rather than genetic, thereby making it much more consistent with marginal utility theory than with Darwinism. Although creatures responded to the environment within the Darwinian model, the consequences were changes in the likelihood of survival and the production of offspring. Thus, for example, Darwinism might pursue the criminal liability problem through sterilization.

To be sure, the Progressive Era's conception of legal deterrence included significant elements of both Darwinian (genetic) and marginalist (behavioralist) deterrence. The first part of the Progressive reform agenda has proved to be a kind of embarrassment for liberals today. Progressive policymakers became fairly deeply involved in making the world a better place by sterilizing "defectives." Such policy contrasted sharply with Ross's conception of "social control," which used the law primarily to give individuals incentives to alter their own behavior.

The Progressive record on Darwinian forms of deterrence is voluminous. For example, in 1900 August Drahms, chaplain at the San Quentin prison in California, published a popular study of the American criminal based on cranial and facial measurements he had conducted on 2000 San Quentin inmates.<sup>101</sup> Drahms distinguished between the "instinctive criminal," who committed crimes no matter how favorable his environment, and the "habitual criminal," who had

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100. See, for example, Commager, *American Mind* at 97-98 (cited in note 27). See generally Wiener, *Founders of Pragmatism* (cited in note 38).

101. August Drahms, *The Criminal: His Personnel and Environment* (Macmillan, 1900).

learned to live by crime because of adverse circumstances.<sup>102</sup> Drahms concluded that the principal causes of instinctive criminality were hereditary, but that habitual criminality resulted from environmental causes. Drahms's principal recommendation for sanctions was that they focus on reformation. He believed in prevention, but only in the Darwinian sense of changing the environment in such a way as to remove that which tended to create the criminal type.<sup>103</sup>

More radical reformist agendas soon developed. In 1899 the vasectomy was developed as a reliable sterilization procedure without the debilitating effects of castration. Several states began programs of systematically sterilizing certain criminals, often with little legal process. Between 1899 and 1907 Indiana alone sterilized 465 criminals, a high proportion of those convicted of felonies in the state. Between 1907 and 1926 twenty-three states enacted sterilization laws. Not all of the laws were limited to criminals; many provided for the sterilization of those deemed mentally defective as well. For example, the Virginia statute upheld by the United States Supreme Court in *Buck v. Bell* provided for the sterilization of the inmates of any state institution upon a finding that the subject was "afflicted with hereditary forms of insanity [or] imbecility."<sup>104</sup> The opinion, written by Justice Holmes, has often been used to quiet myths about Holmes's populism and liberalism, for it contained some quite illiberal language: "Three generations of imbeciles are enough."<sup>105</sup> But the truth lies in the other direction. Many of the most activist reformers of the Progressive Era were also staunch supporters of the eugenics movement and believed that compulsory sterili-

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102. *Id.* at 144. For a list of other studies of the relationship between physical traits and criminal behavior, see Jerome Michael and Mortimer J. Adler, *Crime, Law and Social Science* (Harcourt, Brace, 1933). A very famous nineteenth century American study of heredity and criminality is Robert L. Dugdale, *The Jukes: A Study in Crime, Pauperism, Disease, and Heredity* (Putnam's Sons, 1877). Dugdale's study concerns a New York family that included a particularly high number of offenders. Dugdale identified the causes as a host of hereditary diseases and deformities, coupled with some undesirable environmental influences. By 1910 the work was clearly outdated, but the publisher reissued it with an introduction by sociologist Franklin H. Giddings to show how the newer science had determined that the causes of crime were largely environmental rather than hereditary. See Robert L. Dugdale, *The Jukes* (Putnam's Sons, 4th ed. 1910). For other important studies conducted in America during this period on the relationship of heredity and criminality, see Leonard Doncaster, *Heredity in the Light of Recent Research* 165-66 (University, 1910).

103. Thus, Drahms's deterrence agenda included such policies as prohibition and minimum wage laws. In Drahms's own words: "Change the environment and you inaugurate the process that will eventually render these conditions impossible and after-remedies unnecessary." Drahms, *The Criminal* at 373. For discussion of other studies conducted in America during this period on the relationship between heredity and criminality, see Doncaster, *Heredity in Light of Recent Research* at 165-66.

104. 274 U.S. 200, 206 (1927) (construing Va. Code § 1095h (1924)).

105. 274 U.S. at 207.

zation of defectives was an essential part of comprehensive state planning.<sup>106</sup> Progressive liberals, such as Ross and probably even Justice Brandeis, generally supported sterilization laws.<sup>107</sup> Nonetheless, the practice of sterilization came under strong attack in the early 1900s and began to subside in the 1920s.<sup>108</sup>

This Darwinian rationale for state intervention was not directed at changing the behavior of existing individuals at all. Programs such as mandatory sterilization were designed to deter only in the sense that they sought to reduce the amount of criminal activity in the next generation. Furthermore, such policies could be carried out without reference to the behavior of the persons upon whom they were imposed. For example, the literature of the day, including Draht's book,<sup>109</sup> espoused the belief that one could quite easily recognize the "criminal type" solely on the basis of devices such as intelligence tests and cranial measurements; one did not need to wait for the commission of a criminal act. Carried to its extreme, this policy justified intervention before the anticipated criminal acts even occurred. Indeed, statutes such as those at issue in *Buck v. Bell* were designed to do precisely this.<sup>110</sup>

In sum, one must distinguish two quite separate regulatory agendas of the Progressive movement: the use of sanctions to alter people's present conduct and their use to limit certain people's capacity to reproduce. Historical writing about Reform Darwinism often lumps the two together; however, they are very different, and the first one is not Darwinian at all.

### C. *Deterrence, the External Standard and the Rational Actor:* *Holmes*

Voluminous historical writing confirms that Holmes was interested in the work of the philosophical Pragmatists at Harvard in the 1870s. To one degree or another, these influenced his legal thought.<sup>111</sup> Holmes

106. By contrast, Justice Butler, one of the most conservative members of the Court, dissented without opinion. 274 U.S. at 208 (Butler dissenting).

107. See Degler, *Decline and Revival of Darwinism* at 47-48 (cited in note 37).

108. See, for example, *A Protest Against Laws Authorizing the Sterilization of Criminals and Imbeciles*, 5 J. Crim. L. & Criminol. 514 (1915); Joel D. Hunter, *The Sterilization of Criminals*, 5 J. Crim. L. & Criminol. 499 (1915). For a critique written after the movement had subsided, see Stanley Powell Davies and Frankwood E. Williams, *Social Control of the Mentally Deficient* 94-120 (Thomas Y. Crowell, 1930). See also Hamilton Cravens, *The Triumph of Evolution: American Scientists and the Heredity-Environment Controversy, 1900-1941* (Univ. of Penn., 1978); Mark H. Haller, *Eugenics: Hereditarian Attitudes in American Thought* (Rutgers, 1963).

109. Drahts, *The Criminal* (cited in note 101).

110. 274 U.S. at 206. See Mary L. Dudziak, *Oliver Wendell Holmes as a Eugenic Reformer: Rhetoric in the Writing of Constitutional Law*, 71 Iowa L. Rev. 833 (1986).

111. See, for example, Thomas C. Grey, *Holmes and Legal Pragmatism*, 41 Stan. L. Rev. 787 (1989); Max H. Fisch, *Justice Holmes, the Prediction Theory of Law, and Pragmatism*, in Ken-



appears to have followed the Pragmatists in the same way that he read other Darwinians. They molded his mindset, confirming both his cynicism and his legal positivism. Beyond that, however, Pragmatism is not explicit in Holmes's historical analysis of the development of legal rules, his legal theory, or his judicial decisions.

Holmes also closely studied the English utilitarians, including Bentham.<sup>112</sup> Although the underlying framework of Holmes's legal theory was Pragmatic and Darwinian, its content was utilitarian and marginalist and was concerned mainly with deterrence.<sup>113</sup> Holmes's neoclassicism is scattered throughout *The Common Law*, beginning with his development of the external standard in the late nineteenth century.<sup>114</sup> Indeed, just as the neoclassicists had taken the utilitarian writers and merged them into classical economics, Holmes took the utilitarian writers and merged them into a modern theory of special deterrence as a rationale for all legal rules. Holmes's thinking followed Bentham's writing on the "Proportion Between Punishments and Offences"<sup>115</sup> far more than it followed any Darwinian theory of law.

The external standard became a staple of elite jurisprudence in the first half of the twentieth century. It was the principal jurisprudential force behind such monuments as Arthur L. Corbin's developing theory of contracts<sup>116</sup> and the emergence of modern negligence theory,<sup>117</sup> culminating in Judge Hand's famous test for negligence in the *Carroll Towing* case, which measured negligence in terms of the cost of taking precautions.<sup>118</sup>

The external standard began with the premise that a person's subjective state of mind, or subjective intent, could never be measured, cer-

neth Laine Ketner and Christian J. W. Kloesnel, eds., *Peirce, Semeiotic, and Pragmatism: Essays by Max Fisch* 6 (Indiana Univ., 1986); Wiener, *Founders of Pragmatism* at 172-89 (cited in note 38); Robert Samuel Summers, *Instrumentalism and American Legal Theory* 20-34 (Cornell, 1982).

112. See, in particular, H.L. Pohlman, *Justice Oliver Wendell Holmes & Utilitarian Jurisprudence* (Harvard, 1984).

113. See, for example, Oliver Wendell Holmes, *The Common Law*, Lecture II (Little, Brown, 1881) (specifically rejecting Kantian objections to deterrence theory).

114. See id.; Oliver Wendell Holmes, *The Theory of Torts*, 7 Am. L. Rev. 652 (1873); Oliver Wendell Holmes, *Primitive Notions in Modern Law*, No. I, 10 Am. L. Rev. 422 (1876); Oliver Wendell Holmes, *Primitive Notions in Modern Law*, No. II, 11 Am. L. Rev. 641 (1877).

115. See Bentham, *Principles of Morals and Legislation* at ch. XIV (cited in note 15).

116. See Arthur Linton Corbin, *Quasi-Contractual Obligations*, 21 Yale L. J. 533 (1912); Arthur Linton Corbin, *Discharge of Contracts*, 22 Yale L. J. 513 (1913). Others are discussed in Horwitz, *Transformation of American Law* at 49-50 (cited in note 70). See also Grant Gilmore, *The Death of Contract* (Ohio State, 1974).

117. Mainly in Holmes, 7 Am. L. Rev. 652; Holmes, *The Common Law* chs. 3 & 4 (cited in note 113).

118. *United States v. Carroll Towing Co.*, 159 F.2d 169, 173 (2d Cir. 1947). On the Hand test, see William M. Landes and Richard A. Posner, *The Economic Structure of Tort Law* 85-88 (Harvard, 1987).

tainly not with sufficient precision to enable the law to apply its rules for liability and penalty. Speaking of subjectivity in the context of criminal law, Holmes said:

[I]f we take into account the general result which the criminal law is intended to bring about, we shall see that the actual state of mind accompanying a criminal act plays a different part from what is commonly supposed.

For the most part, the purpose of the criminal law is only to induce external conformity to rule.

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Considering this purely external purpose of the law together with the fact that it is ready to sacrifice the individual so far as necessary in order to accomplish that purpose, we can see more readily than before that the actual degree of personal guilt involved in any particular transgression cannot be the only element, if it is an element at all, in the liability incurred. So far from its being true, as is often assumed, that the condition of a man's heart or conscience ought to be more considered in determining criminal than civil liability, it might almost be said that it is the very opposite of truth.

...

[W]hen we are dealing with that part of the law which aims more directly than any other at establishing standards of conduct, we should expect there more than elsewhere to find that the tests of liability are external, and independent of the degree of evil in the particular person's motives or intentions.<sup>119</sup>

In his theories of crimes and torts, Holmes based liability on foresight and measured foresight by an objective standard: "common" experience, rather than the experience of any individual.<sup>120</sup> Speaking of intent in fraud cases, Holmes concluded that actual subjective intent was irrelevant; what counted was the "external standard of what would be fraudulent in the average prudent member of the community."<sup>121</sup> Unable to identify the alleged tortfeasor's state of mind, the tribunal should look instead to manifested acts and consider whether they are the acts of a reasonable and prudent person acting under the same or similar circumstances. In contract law the external standard holds that parties' intentions are unknowable except through their acts and that the principal relevant act is the drafting of the contract. As a result, the meaning of a written contract is its meaning to the general reader, or perhaps a reader conversant in the technical language that specialized contracting often employs.

119. Holmes, *The Common Law* at 49-50 (cited in note 113). See also William A. Lundquist, Note, *Oliver Wendell Holmes and External Standards of Criminal and Tort Liability: Application of Theory on the Massachusetts Bench*, 28 *Buff. L. Rev.* 607 (1979).

120. Holmes, *The Common Law* at 130-31.

121. *Id.* at 137. In criminal law Holmes found intent to be occasionally important, but only in making sure that society deters precisely what it wishes to deter:

Although punishment must be confined to compelling external conformity to a rule of conduct, so far that it can always be avoided by avoiding or doing certain acts as required, with whatever intent or for whatever motive, still the prohibited conduct may not be hurtful unless it is accompanied by a particular state of feeling.

*Id.* at 63.

Was the external standard Darwinian, marginalist, or both? In its origin it was perhaps both, but its operational logic owed much more to the marginalist model than the Darwinian. The opening premise that one can never examine the internal workings of another's mind was a staple of behaviorist social science at the turn of the century. For example, it formed the basis of J. B. Watson's dispute with William James over the use of introspection as a methodological device for observing mental states.<sup>122</sup>

Holmes's external standard purported to look at the "average man" and to consider how he would act in a particular situation. Holmes wrote:

The standards of the law are standards of general application. The law takes no account of the infinite varieties of temperament, intellect, and education which make the internal character of a given act so different in different men. . . . [W]hen men live in society, a certain average of conduct, a sacrifice of individual peculiarities going beyond a certain point, is necessary to the general welfare. [So in determining blameworthiness,] [t]he law considers . . . what would be blameworthy in the average man, the man of ordinary intelligence and prudence, and determines liability by that.<sup>123</sup>

The same was true of Holmes's objective theory of contract. The "very office of construction" of contracts, Holmes wrote, "is to work out, from what is expressly said and done, what would have been said with regard to events not definitely before the minds of the parties, if those events had been considered."<sup>124</sup>

Today it seems quite clear that Holmes's concept of the "average" person requires either individual utility comparisons or some equivalent measure. Otherwise the average person is nothing more than a hypothetical construct. Holmes never discussed in detail who the average person was, but he apparently thought that discovering him was like discovering the person with the average height or weight—one simply measured everyone and then took the mean. In this sense assigning the standard of care of the average person was for Holmes very much a positive rather than a normative activity. The fact that he was seeking a "certain average of conduct," that applied to "temperament, intellect,

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122. The most important literature includes John B. Watson, *Behaviorism* (People's Institute, 1924); John B. Watson, *Psychology From the Standpoint of a Behaviorist* (J. B. Lippincott Co., 1919); I.P. Pavlov, *Conditioned Reflexes: An Investigation of the Psychological Activity of the Cerebral Cortex* (Oxford, 1927); Albert Paul Weiss, *A Theoretical Basis of Human Behavior* (R.G. Adams & Co., 1925); John Dewey, *How We Think* (D.C. Heath & Co., 1910); William Chandler Bagley and Stephen Sheldon Colvin, *Human Behavior* (Macmillan, 1919); William McDougall, *Social Psychology* (John W. Luce & Co., 13th ed. 1918); Max Fredrich Meyer, *The Fundamental Laws of Human Behavior* (R.G. Badger, 1911).

123. Holmes, *The Common Law* at 108 (cited in note 113).

124. *Id.* at 303.

and education”<sup>125</sup> did not seem to trouble him. In short, thinking like a utilitarian, Holmes made the average person his lawmaker: whatever the average person’s standard was, that was the standard the judge would apply.

Holmes rarely admitted something that seems quite obvious today: his “average” person was no more than an artificial construct. In applying the external standard, the law selected its own substantive standard of conduct and then gave people an incentive to adhere to it. The adoption of an external standard was effectively the adoption of the standard of some social group, be it a jury, judges, or legislators.

Holmes’s average man was Darwinian in its origin but marginalist in its application. It was Darwinian because the average person was reconstructed from the circumstances—that is, one inferred preferences from the environment or situation in which the preferences were to be exercised. Furthermore, one assumed that, because human beings were the product of evolution by natural selection, their minds worked similarly and, on a class basis, responded in similar ways to the same set of incentives. In its operation, however, the standard was marginalist, for it sought the “maximizing” course of action for someone in a particular position—the one that minimized loss or risk and produced the greatest net benefit.

The external standard and the hypothesis of the average man turned even private law into a social control device. The relevant actors could no longer judge the legality of their conduct by looking within; they had to look to the publicly stated standard. It was not enough to be properly motivated and subjectively attentive to the needs of others; one had to make sure that he did not commit an act inconsistent with the standard of care of a reasonable person as defined by some authoritative element of society.

The interpersonal incomparability of utilities made Holmes’s average man impossible to find; he had to be created. As Bentham had observed already in the eighteenth century, judges really cannot determine the average of such qualities as temperament.<sup>126</sup> As a result, Warren Seavey argued in 1927, the law never determines the standard of the average person empirically when it measures something like negligence. Rather it constructs the average person as the person who takes the amount of precaution that the legal policymaker believes to be ap-

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125. *Id.* at 108.

126. See Postema, *Bentham and the Common Law Tradition* at 215 (cited in note 76) (discussing and quoting unpublished Bentham manuscripts from University College, London).

propriate. Thus, there is no "standardized man," but only an objective test.<sup>127</sup>

Deterrence-based rules as Holmes conceived them effectively made law into a social control device by settling on standards of behavior, hypothesizing that the average person should conform to those standards, and then providing penalties for those actual individuals who failed to do so—whether the particular individual receiving the penalty was average or not. In criminal and tort law, the standards required certain kinds of conduct or certain levels of care toward others. In contract law the standards required such things as clarity of expression.

For example, Holmes's ambiguous discussion of *Raffles v. Wichelhaus*<sup>128</sup> makes sense when viewed as part of an argument for marginal deterrence. The defendant agreed to buy cotton "to arrive ex *Peerless* from Bombay." Two ships named *Peerless*, however, were leaving from Bombay, one in October and the other in December, and the buyer and seller were thinking of different ships. The court found that the defendant was not bound. Holmes wrote:

It is commonly said that such a contract is void, because of mutual mistake as to the subject-matter, and because therefore the parties did not consent to the same thing. But this way of putting it seems to me misleading. The law has nothing to do with the actual state of the parties' minds. In contract, as elsewhere, it must go by externals, and judge parties by their conduct. If there had been but one "*Peerless*," and the defendant had said "*Peerless*" by mistake, meaning "*Peri*," he would have been bound. The true ground of the decision was not that each party meant a different thing from the other, as is implied by the explanation which has been mentioned, but that each said a different thing. The plaintiff offered one thing, the defendant expressed his assent another.<sup>129</sup>

Exactly what did Holmes mean when he stated that the parties "said" different things—given that there was only one statement, that it was contained in the contract, and that it said "*Peerless*" without specifying which one? He meant that the word "*Peerless*," had two different, private meanings and that the parties had simply chosen the same word to refer to these two different meanings. For example, the word "mad" means both mentally ill and angry. If one, referring to the incident at Harper's Ferry, said "John Brown was mad," one might mean that he was deranged. Another, noting his anger about slavery, might say "John Brown was mad" and be referring to his anger. Holmes would say not merely that they "meant" different things, but that they "said" different things.

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127. "The standard man evaluates interests in accordance with the valuation placed upon them by the community sentiment crystallized into law." Warren A. Seavey, *Negligence—Subjective or Objective?*, 41 Harv. L. Rev. 1, 10, 27 (1927).

128. 159 Eng. Rep. 375 (1864).

129. Holmes, *The Common Law* at 309 (cited in note 113).

Unfortunately, the fact that they “said” different things is unclear, for they used a word that had two meanings. Holmes’s real point was that although the law’s goal is deterrence, it simply cannot deal with people’s internal meanings. It observes only the chosen words. The *Raffles* decision was correct because it gave people an increased incentive to be clear about what they meant. If a word had two possible meanings in its context but the agreement was unclear about which meaning was intended, then a court was likely to hold that the agreement “said” two different things. In that case, the two parties did not agree to the same thing, and there was no contract. The penalty thus served to give both parties an equal incentive to make their meaning clear. At the time the contract was negotiated, both presumably expected to benefit from the contemplated sale. Ambiguities of language had to be attended to at that time as well.<sup>130</sup>

By the time he wrote *The Path of the Law* in 1897,<sup>131</sup> Holmes was much clearer that the point of this objective, external standard of contracting was marginal deterrence. The whole purpose of damages, he noted, was to give people a new motive for not doing something. The pragmatic element in Holmes’s *Path of the Law* is its argument that law is nothing more than a prediction of what courts will do.<sup>132</sup> If Holmes’s legal philosophy were reduced to that observation alone, however, it would have been a philosophy without a content. A litigator arguing a case is interested principally in predicting what courts will do. Indeed, Holmes made clear that his prediction theory was designed principally for two different circumstances. One was the positive “study of this body of dogma” merely to determine its content.<sup>133</sup> The other was the situation of the person who wanted to know what he could and could not do.<sup>134</sup>

These observations added very little, however, to the more general content of Holmes’s legal message, which was to develop optimal principles for assessing the balance between conduct and state of mind, optimal negligence and contract rules, and so on. Holmes was quite clear about this distinction:

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130. As Holmes continued:

A proper name, when used in business or in pleading, means one individual thing, and no other, as every one knows, and therefore one to whom such a name is used must find out at his peril what the object designated is. . . . [I]f a man uses a word to which he knows the other party attaches, and understands him to attach, a certain meaning, he may be held to that meaning, and not be allowed to give it any other.

Id. at 309-10.

131. Oliver Wendell Holmes, *The Path of the Law*, 10 Harv. L. Rev. 457 (1897).

132. Id. at 457-58.

133. Id. at 458.

134. Id. at 461.

So much for the limits of the law. The next thing which I wish to consider is what are the forces which determine its content and its growth. . . . Even if every decision required the sanction of an emperor with despotic power and a whimsical turn of mind, we should be interested none the less, still with a view to prediction, in discovering some order, some rational explanation. . . .<sup>135</sup>

Then, after turning to content, Holmes made this powerful argument for marginal deterrence, rather than Darwinian selection, as the goal of criminal punishment:

Do we deal with criminals on proper principles? . . . . If the typical criminal is a degenerate, bound to swindle or to murder by as deep seated an organic necessity as that which makes the rattlesnake bite, it is idle to talk of deterring him by the classical method of imprisonment. He must be got rid of; he cannot be improved, or frightened out of his structural reaction. If, on the other hand, crime, like normal human conduct, is mainly a matter of imitation, punishment fairly may be expected to help to keep it out of fashion. The study of criminals has been thought by some well known men of science to sustain the former hypothesis. . . . But there is weighty authority for the belief that, however this may be, "not the nature of the crime, but the dangerousness of the criminal, constitutes the only reasonable legal criterion to guide the inevitable social reaction against the criminal."<sup>136</sup>

The same attitude guided Holmes's position in the great debate over the existence and nature of objective causation, or proximate cause, in tort law.<sup>137</sup> Holmes followed the lead of other American pragmatic legal thinkers, such as Nicholas St. John Green,<sup>138</sup> in reducing the entire debate to a question of foreseeability, with foreseeability measured by an objective test. Holmes wrote in *The Common Law*: "If the intervening events are of such a kind that no foresight could have been expected to look out for them, the defendant is not to blame for having failed to do so."<sup>139</sup> The American pragmatists, notably Charles Peirce and William James, came to the same position.<sup>140</sup> Once again, the law defined the harm it wished to prevent as a matter of policy and then gave people suitable incentives for taking precautions. Equating causation with foreseeability was simply a device for tying the prevailing rhetoric of cause to the goal of marginal deterrence.

135. Id. at 464-65.

136. Id. at 470-71 (citation omitted).

137. On the debate, see Herbert Hovenkamp, *Pragmatic Realism and Proximate Cause in America*, 3 J. Leg. Hist. 3 (1982). See also Horwitz, *Transformation of American Law* at 51-63 (cited in note 70).

138. Nicholas St. John Green, *Proximate and Remote Cause*, 4 Am. L. Rev. 201 (1870). See also Nicholas St. John Green, *The Three Degrees of Negligence*, 8 Am. L. Rev. 649 (1874).

139. Oliver Wendell Holmes, *The Common Law* at 92 (cited in note 113).

140. See, for example, Charles Sanders Peirce, *Collected Papers of Charles Sanders Peirce*, VI Charles Hartshorne and Paul Weiss, eds. at 275, 28-66 (1931-1935); William James, *Essays in Radical Empiricism* 155 et seq. (Longmans, Green, 1912).

The case for Holmes's Social Darwinism rests on a few isolated statements drawn from various parts of his life.<sup>141</sup> Most of the statements are as consistent with a much more general cynicism about human nature as with Social Darwinism in particular. What Holmes's thought does represent, by contrast, is a rather thorough-going marginal utilitarianism, which shows up as (1) his broad-based willingness to replace morality-based legal rationales with deterrence-based rationales; (2) his stressing of negligence as the unifying principle of tort law; and (3) his identification of legally sufficient causation with foreseeability, measuring the latter by an objective test.

Marginalism is also implicit in Holmes's fundamental conclusion that the basis of criminal liability and civil liability is the same.<sup>142</sup> Both Holmes's theory of torts and his quest for a universal basis for liability in *The Common Law* seem quite inconsistent with the Pragmatist's stated revulsion for unifying theories.<sup>143</sup> Furthermore, when one views the law from the classical perspective, criminal law deals with immorality and harms against the state; it is public law. By contrast, civil law is purely private and concerns only harms to the individual. An individual has only one utility curve, however, and both imprisonment and the payment of damages supply disutility and thus a disincentive for engaging in certain kinds of behavior. Consequently, Holmes identified "fore-sight" as the "common denominator"<sup>144</sup> that cut across all forms of legal liability, both criminal and tortious:

The purpose of the law is to prevent or secure a man indemnity from harm at the hands of his neighbors, so far as consistent with other considerations which have been mentioned, and excepting, of course, such harm as it permits to be intentionally inflicted. When a man foresees that harm will result from his conduct, the principle which exonerates him from accident no longer applies, and he is liable. But . . . he is bound to foresee whatever a prudent and intelligent man would have foreseen, and therefore he is liable for conduct from which such a man would have foreseen that harm was liable to follow.<sup>145</sup>

Holmes was certainly Darwinian in the sense that he believed that the theory of evolution by natural selection explained the development of species.<sup>146</sup> He cannot ultimately be classified, however, as either a

141. See Mark DeWolfe Howe, *Introduction*, in Oliver Wendell Holmes, *The Common Law* xxvi (Little Brown, 1963) (Mark DeWolf Howe ed.).

142. Holmes, *The Common Law* at 49-51 (cited in note 113).

143. See, for example, William James, *Pragmatism, A New Name for Some Old Ways of Thinking* ch. 1 (Longmans Green, 1907).

144. Holmes, *The Common Law* at 146 (cited in note 113).

145. *Id.* at 146-47.

146. On this point, see Elliott, 13 *J. Legal Stud.* at 126-40 (cited in note 30); Vetter, 72 *Calif. L. Rev.* at 363 (cited in note 30); Benjamin Kaplan, *Encounters with O. W. Holmes, Jr.*, 96 *Harv. L. Rev.* 1828, 1840 (1983); Mark DeWolfe Howe, 2 *Justice Oliver Wendell Holmes: the Proving Years, 1870-1882* 44-49 (Harvard, 1962).



Social Darwinist or a Reform Darwinist.<sup>147</sup> He simply was unwilling to find in the theory of evolution such broad implications for state policy. As for Social Darwinism, he wrote in his *Lochner* dissent that the Fourteenth Amendment did not, as the majority apparently thought, enact Herbert Spencer's *Social Statics*.<sup>148</sup> Clearly, Holmes was not a Reform Darwinist; his entire life he expressed deep skepticism about statist attempts to improve the human race by making the world over.<sup>149</sup> As is well-known, the attempts by some Progressives to make Holmes into a Reform Darwinist have simply not held up.<sup>150</sup>

Holmes was simply a person who believed in biological evolution, but who never translated this belief into a general theory of law or society. Indeed, most of his theoretical writing on the law notably omitted citation to evolutionist doctrine.<sup>151</sup> The few occasions when he made reference to evolutionary theory in his legal writings were concerned entirely with the descriptive question of how legal rules evolve, not with the policy question of what evolution has to say about the nature of legal policymaking.<sup>152</sup>

The real importance of Holmes's jurisprudence was its implicit marginalism—in this case, its recognition that human beings respond to incentives by comparing marginal costs with marginal benefits. The external standard in contract and negligence law, for example, clearly was not related to either a Social Darwinist or a Reform Darwinist view of optimal policy. It simply rested on the premise that once objectively

147. Some writers have classified Holmes as a Social Darwinist. See, for example, Richard A. Posner, *The Meaning of Judicial Self-Restraint*, 59 *Ind. L. J.* 1, 23 (1983); Richard A. Posner, *Economics, Politics, and the Reading of Statutes and the Constitution*, 49 *U. Chi. L. Rev.* 263, 267 (1982); Joseph Frazier Wall, *Social Darwinism and Constitutional Law with Special Reference to Lochner v. New York*, 33 *Annals Sci.* 465, 475 (1976).

148. *Lochner*, 198 U.S. at 74 (Holmes dissenting).

149. See, for example Oliver Wendell Holmes, *Introduction*, in John H. Wigmore and Albert Kocourek, eds., *Rational Basis of Legal Institutions* xxxi (Macmillan, 1923).

The subjects dealt with in this book are so interesting that it is hard to refrain from expressing one's own views upon at least some of them. But in one place or another I have said what I think about the foundations, and I will go no farther than to repeat that most even of the enlightened reformers that I hear or read seem to me not to have considered with accuracy the means at our disposal and to become rhetorical just where I want figures. The notion that we can secure an economic paradise by changes in property alone seems to me twaddle.

Id.

150. See, for example, Catherine Drinker Bowen, *Yankee from Olympus; Justice Holmes and his Family* (Little, Brown, 1944). For a similar view, see Benjamin J. Cardozo, *Mr. Justice Holmes*, 44 *Harv. L. Rev.* 682, 687 (1931). For the critiques, see Irving Bernstein, *The Conservative Mr. Justice Holmes*, 23 *New Eng. Q.* 435 (1950); Sanl Touster, *In Search of Holmes From Within*, 18 *Vand. L. Rev.* 437 (1965).

151. See Hovenkamp, 64 *Tex. L. Rev.* at 659-62 (cited in note 2).

152. See, for example, Hohnes, 12 *Harv. L. Rev.* 443 (cited in note 30).

reasonable rules were stated, people would adjust their future behavior so as to maximize their own positions.

#### IV. LEGAL POLICY AND PROBLEMS OF VALUE

The marginalist revolution also shaped American legal thinking about the nature of value in the same way that neoclassicism revised classicism's theory of value. The most immediate impact of marginalist theory in the writings of economists such as Jevons and Marshall<sup>153</sup> was not on marginal deterrence, but on the classical theory of value. That impact eventually showed up in a wide variety of state policies.<sup>154</sup> Here I discuss two such influences, one rather briefly and one at greater length.

##### A. *The Decline of the Wage-Fund Doctrine*

The wage-fund doctrine,<sup>155</sup> which dominated classical economic and legal theory in the nineteenth century, held that at any given time the total fund available for the payment of wages was directly related to the amount of capital that had previously been invested in an enterprise. The doctrine was distinctly classical, or "pre-marginalist," in the sense that it looked backward, at what had already been paid in, to determine value. Under this theory maximum wages equaled the amount of the fund divided by the number of workers. If wages were too high, the fund would be depleted, producers would suffer declines in output and perhaps be driven into bankruptcy, and unemployment and starvation would result for laborers. Thus, the wage-fund theory provided a powerful argument against labor unions and legislative interference with the labor market, such as minimum wage statutes.<sup>156</sup> Judicial opinions such as *Adkins v. Children's Hospital*,<sup>157</sup> relied on the wage-fund theory in striking down such legislative attempts to increase the rate of wages.

The wage-fund theory originated from simple agrarian analogies, contexts in which there was no labor contract at all. For example, a farmer laboring in his field had to live on last year's corn, not the im-

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153. See discussion in notes 17-23 and accompanying text.

154. For example, it also affected monetary policy, in which marginalism appeared to justify the abandonment of bimetallism or the gold standard in favor of currencies based on the sovereign's creditworthiness.

155. For a detailed discussion of the wage-fund theory, its impact on legal policy, and its displacement by the marginal value theory, see Hovenkamp, *Enterprise and American Law* ch. 16 (cited in note 13).

156. For a detailed analysis by an American contemporary critic, see Francis Walker, *The Wage-Fund Theory*, 120 N. Am. Rev. 84 (1875).

157. 261 U.S. at 557.

mature corn then growing in the field. If he relied on the latter, he would eventually starve. William Graham Sumner, one of the staunchest defenders of the wage-fund doctrine in the United States, ridiculed its critics by analogizing their views to the belief "that a man who was tilling the ground in June could eat the crop he expected to have in September, or that a tailor could be wearing the coat which he was making."<sup>158</sup>

The rise of marginalism in economics undermined classical theories, which predicated value on previous investment. In their place arose theories emphasizing anticipated productivity.<sup>159</sup> When an entrepreneur hired a laborer, the appropriate wage depended on the worker's marginal contribution to the production process not the previous investment in capital. If a worker added value equal to fifteen cents per hour, the employer would be willing to pay any amount up to fifteen cents per hour less the costs of maintaining the worker. In short, the determination of a laborer's value was a forward- rather than backward-looking process, which emphasized productivity at the margin—the amount of additional value that the work would produce.

According to the marginal value theory, workers' wages produced a surplus, and the purpose of public wage policy was to determine who would get that surplus. If a worker, whose subsistence rate was ten cents per hour, contributed fifteen cents per hour in productive value, the five cent surplus would go to the employer, assuming wages were set at the subsistence level. Forcing the employer to pay any amount up to fifteen cents per hour was viewed as efficient because the worker would still be earning his pay and no injury to productivity would occur. In the eyes of Progressive economists, the only question was whether the surplus should go to the rather well-off employer or the rather impoverished laborer. For economists who believed that utilities were interpersonally comparable, this was an easy question, and the answer justified broad encouragement of labor unions and legislated minimum wage laws.<sup>160</sup>

### B. Corporate Valuation and the "Watered Stock" Controversies

The most memorable and influential work of Progressive era reformers was not their elaborate proposals for social reform but their

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158. William Graham Sumner, *Wages*, in *Collected Essays in Political and Social Science* 36, 50 (1885).

159. Americans include Walker, 120 N. Am. Rev. at 84 (cited in note 156); Stuart Wood, *A New View of the Theory of Wages*, 3 Q. J. Econ. 462 (1889); Richard T. Ely, *Property and Contract in Their Relations to the Distribution of Wealth* 2-4 (Macmillan, 1914); Clark, *The Possibility of a Scientific Law of Wages*, 4 Pub. Am. Econ. Assn. 39 (cited in note 48).

160. See Hovenkamp, 42 Stan. L. Rev. at 1009-13 (cited in note 8).

“muckraking”—their detailed exposures of great abuses and scandals by those with wealth and power.<sup>161</sup> Chief targets of the muckrakers were the emergent large business corporation and the magnates who controlled them, including John D. Rockefeller, Andrew Carnegie, and perhaps most of all, Cornelius Vanderbilt and Jay Gould of the railroads. Perhaps no series of scandals engaged the reformist mind more than those concerning corporate financial abuses. Ida Tarbell excoriated John D. Rockefeller’s financial dealings in her history of the Standard Oil Company.<sup>162</sup> Charles Francis Adams made his career on a series of articles in the *North American Review* exposing the great Erie Railroad stock scandal of the 1860s.<sup>163</sup>

A story that became exceedingly familiar during the Progressive era was that of the Erie Railroad and its financial dealings. The Erie Railroad was a large corporation that bilked small investors, both stock purchasers and creditors, through financial fraud, largely through the issuance of watered stock. Stock was said to be “watered” when the par value stated on the face of a share certificate exceeded the amount of capital that had actually been paid into the corporation. For example, if a corporation issued 1000 shares of common stock at a stated par value of \$100 per share, the statement was in effect a guarantee by the corporation’s managers that \$100,000 of capital had been paid into the corporation. This stated amount was presumed to be the corporation’s value and represented an assurance to both stock purchasers and creditors that the corporation in which they were investing had a certain value. Under the classical theory if the stated par value multiplied by the number of shares exceeded the amount of capital actually paid in, the shareholders could later be held liable for the difference.<sup>164</sup>

Law treatise writer William W. Cook, one of the greatest defenders of the traditional conception of par value, explained the significance of par value and watered stock this way:

A share of stock is supposed, in theory, to represent its par value in money or money’s worth, paid in or to be paid in to the corporation. . . . All stock which has

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161. See Ekirch, *Progressivism in America* at 58-63 (cited in note 58); Louis Filler, *The Muckrakers: Crusaders for American Liberalism* (Gateway, 1968).

162. See Ida M. Tarbell, *History of the Standard Oil Company* (McClure, Phillips, 1904).

163. See Charles Francis Adams, *The Railroad System*, 104 N. Am. Rev. 476 (1867); Charles Francis Adams, *Legislative Control over Railway Charters*, 1 Am. L. Rev. 451 (1867); Charles Francis Adams, *The Erie Railroad Row*, 3 Am. L. Rev. 41 (1868); Charles Francis Adams, *Railroad Inflation*, 108 N. Am. Rev. 130 (1869); Charles Francis Adams, *A Chapter of Erie*, 109 N. Am. Rev. 30 (1870); Charles Francis Adams, *Railway Problems in 1869*, 110 N. Am. Rev. 116 (1870); Charles Francis Adams, *Railway Commissions*, 2 J. Soc. Sci. 233-36 (1870); Charles Francis Adams, *The Government and the Railroad Corporations*, 112 N. Am. Rev. 31 (1871). On Adams’s career in railroad regulation, see Thomas K. McCraw, *Prophets of Regulation*, ch. 1 (Harvard, 1984).

164. See, for example, *Camden v. Stuart*, 144 U.S. 104 (1892); *Lloyd v. Preston*, 146 U.S. 630 (1892).

been issued as paid-up stock, but whose full par value has not been paid in to the corporation in money or money's worth, is watered to the extent that the par value exceeds the value actually paid in.<sup>165</sup>

As the Pennsylvania Supreme Court stated this classical view of corporate valuation in 1889, the "meaning of the word 'value,' and the basis on which the idea of value rests" is the representation made on the stock certificate of that which has been contributed. The stock certificate "stands in the hands of the subscriber for so much as, and no more than, the amount actually paid upon it."<sup>166</sup>

The logical basis of the watered stock doctrine was the same as that of the wage-fund theory: value must be measured by the amount of previous investment. As Adams noted in one of his many rhetorical exposes of the railroad scandals of the 1860s: "It is an elementary principle of political economy, that all wealth comes from the soil; neither human industry nor human ingenuity can produce any addition to the material possessions of mankind, except from the earth." As a result, "[t]he sum total . . . of the wealth of any community and of the whole world consists of all that which it has extorted from the earth, enriched by any . . . value which may have been added to it."<sup>167</sup>

Beginning with this classical and backward-looking premise about the nature of value, Adams attacked the increasingly popular railroad practice of paying stock dividends, which increased the stated par value of total outstanding shares without actually increasing the amount of capital that had been invested in the company.<sup>168</sup> Through the stock dividend, the stated capital of the company—the par value multiplied by the now increased number of shares, increased as if by magic. Adams then praised the recently enacted Illinois Constitution for its special provision prohibiting railroads from issuing stock except for "money, labor or property actually received."<sup>169</sup>

At the turn of the century, most states had either statutes or constitutional provisions prohibiting the distribution of shares to shareholders unless the full stated par value of each share had been paid into the corporation.<sup>170</sup> As William Cook noted, the law of corporate limited liability, which he staunchly defended, made the problem of stock-wa-

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165. William W. Cook, *A Treatise on Stock and Stockholders and General Corporation Law* §§ 21, 22 at 28-29 (Callaghan, 2d ed. 1889).

166. *Appeal of Lehigh Ave. R.R. Co.*, 18 A. 498, 499-500 (Pa. 1889).

167. Adams, 108 N. Am. Rev. at 130-131 (cited in note 163).

168. *Id.* at 138-39.

169. Ill. Const., Art. XI, § 13 (1870). See Adams, 112 N. Am. Rev. at 52 (cited in note 163).

170. See Seymour D. Thompson, IV *Commentaries on the Law of Corporations* § 3903 at 479-481 (Bobbs-Merrill, 2d ed. 1910).

tering even more acute.<sup>171</sup> Because of limited liability, creditors could not look to the personal assets of shareholders in the event that corporate debtors defaulted and had insufficient resources to pay their debts. In defense of corporate limited liability, Cook noted that it had made the modern securities market possible. Without it, "the public would not dare to buy stocks, because they would be liable for corporate debts."<sup>172</sup>

Because of limited liability, creditors could turn only to the corporation in the event of default. They had to rely on the value of the corporation itself, rather than that of its human shareholders, in determining creditworthiness. Further, the value of the corporation was seen as nothing other than "the money actually paid for the stock."<sup>173</sup> Cook strongly supported state "blue sky" laws, which prevented corporate promoters from selling stock that represented no value except the blue sky. The statutes required that a state agency approve stock issues before they could be marketed.<sup>174</sup>

No state corporation law considered stock to be watered merely because the capital originally paid in had subsequently become worthless.<sup>175</sup> The primary concern was the value of the property at the time it had been paid in. Under the "trust fund" doctrine, originally developed by Justice Story in *Wood v. Dummer*,<sup>176</sup> and recognized by the Supreme Court in 1873,<sup>177</sup> the stated amount of capital constituted a fund upon which creditors were entitled to rely. If the fund originally paid in was smaller than stated, creditors could rely on the personal assets of shareholders to make up the difference.<sup>178</sup> As a result, the trust-fund doctrine prevented minority stockholders and creditors from being duped by watered stock into thinking that the total amount of paid-in capital was much greater than it really was.

The trust fund doctrine was subject to one important exception, which suggested an understanding that value and paid-in capital were not precisely the same: creditors were entitled to make independent judgments of corporate value and would be held to the consequences.

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171. On the development of limited liability in American corporate law, see Hovenkamp, *Enterprise and American Law* ch. 5 at 49-55 (cited in note 13).

172. William W. Cook, "Watered Stock"—Commissions—"Blue Sky Laws"—Stock Without Par Value, 19 Mich. L. Rev. 583, 584 (1921). As a result of limited liability, "we find in some American corporations over 100,000 stockholders—total strangers to each other, and scattered all over the world." *Id.* at 584. Indeed, as Cook acknowledged, limited liability had permitted the "vast aggregations of capital which have revolutionized modern industry." *Id.*

173. *Id.*

174. *Id.*

175. See James C. Bonbright, 2 *The Valuation of Property* 799 (McGraw-Hill, 1937).

176. 3 Mason 308, 311, 30 F. Cases 435 (1824).

177. *Sawyer v. Hoag*, 84 U.S. (17 Wall.) 610, 620 (1873).

178. See Hovenkamp, *Enterprise and American Law* at 49-55 (cited in note 13).

Thus, for example, if a creditor knew that the capital had not been fully paid in but loaned money anyway, he implicitly had valued the corporation by some means other than its actual paid-in capital. He then could not then collect from the personal assets of shareholders in the event of the corporation's insolvency.<sup>179</sup>

Marginalist economics rendered the par-value, or paid-in capital, theory of corporate valuation untenable for the same reasons that it had upset the wage-fund theory. Value depended not on previous investment, but on marginal contribution. Thus, value was best measured by the corporation's anticipated ability to earn profits.

Nonetheless, the resiliency of the classical theory of corporate valuation was very strong, and it lasted much longer than the wage-fund doctrine. One reason was that Progressives viewed the rise of no-par stock with considerable suspicion, generally attributing it to legislative capture by corporate entrepreneurs. Adolph Berle, Jr. and Gardiner Means made this argument even as late as the 1930s. They regarded the separation of value from paid-in capital as more evidence that the link between ownership and control of the corporation was all but gone:

What is a share of stock "worth"? . . . Curious as it may seem, the fact appears to be that liquid property, at least under the corporate system, obtains a set of values in exchange, represented by market prices, which are not immediately dependent upon . . . the underlying values of the properties themselves. Two forms of property appear, one above the other, related but not the same. At the bottom is the physical property itself, still immobile. . . . Related to this is a set of tokens, passing from hand to hand. . . , which attain an actual value in exchange or market price only in part dependent upon the underlying property. Into it enter elements which are not normally admitted to be elements in the value of the latter. The tokens may, for instance, represent in their value an appraisal of the supposed ability of the particular management interposed between the properties and the owners.<sup>180</sup>

Thus, under no-par stock the value of a corporation—previously accessible to anyone who knew stated par and the number of shares of each class outstanding—became a mystery known only to the managers. Minority shareholders acted largely in ignorance.

Even Progressive liberal economists who found the marginalist revolution quite useful in other areas were skeptical about no-par stock. A good example was Progressive railroad economist William Z. Ripley of Harvard's economics department. Although Ripley was too much a marginalist to believe that value ought to be based on historically invested capital rather than on anticipated profitability, he nonetheless

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179. See *Coit v. Gold Amalgamating Co.*, 119 U.S. 343, 347 (1886).

180. Adolph A. Berle, Jr. and Gardiner C. Means, *The Modern Corporation and Private Property* 285-86 (Macmillan, 1932).

believed that the no-par share statutes would prove to be the breeding ground of "fraud and deception."<sup>181</sup>

Nineteenth century courts rejected out of hand the marginalist argument that the true value of a corporation was its earnings potential. Under this marginalist argument a stock should not be considered "watered" merely because the stated par value was less than the amount paid in. Rather, the relevant measure should be the present value of future earnings. As the Supreme Court concluded in 1892, however, it would not consider intangibles reflecting on the earning power of the corporation in determining whether sufficient capital had been paid in, for these were "too unsubstantial and shadowy" to provide an estimate of value. The Court conceded that a business's goodwill may be relevant as between the parties to a transaction. Nevertheless, in cases involving corporate defaults and creditor allegations of watered stock, goodwill provided no basis for determining value.<sup>182</sup> A 1905 New Jersey court—one of the courts that was most solicitous of corporate managers—concluded that corporate promoters were not entitled to declare the value of paid-in property by estimating future corporate profits.<sup>183</sup> The court rejected the view that it was "competent and lawful to make up the valuation of the visible property to be purchased for stock issued, by adding . . . a sum of money ascertained by the capitalization of the annual profits expected to be realized from a favorable marketing of the product."<sup>184</sup> Most nineteenth century courts enforced this rule simply by asking juries whether the money and property paid into the corporation had a value at the time it was paid in that equalled or exceeded the stated par value of the shares.<sup>185</sup> This rule, generally known as the "true value" rule, ignored estimates of value made by the incorporators themselves, even if these had been made in good faith.<sup>186</sup>

Even as these courts were stating the orthodox view, others were developing rationalizations that changed corporate valuation from a classical to a neoclassical exercise. As early as 1886 the Supreme Court had adopted a standard for the federal courts that deferred to the incorporators' good faith estimates of the value of their corporation.<sup>187</sup> If the estimate was made in good faith, then the corporation would not subsequently be found undercapitalized simply because the value of

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181. William Z. Ripley, *Main Street and Wall Street* 49 (Little, Brown, 1927).

182. *Camden v. Stuart*, 144 U.S. 104, 115 (1892).

183. *See v. Heppenheimer*, 61 A. 843 (N.J. Eq. 1905).

184. *Id.* at 848.

185. *See Clinton Mining & Mineral Co. v. Jamison*, 256 F. 577 (3d Cir. 1919).

186. *See Van Cleve v. Berkey*, 44 S.W. 743 (Mo. 1898); *Clinton Mining*, 256 F. at 582 (discussing and ultimately rejecting the true-value rule).

187. *Coit*, 119 U.S. at 347.



paid-in property turned out to be inadequate to cover the corporation's debts. This good faith test became relevant when paid-in capital included real or personal property instead of, or in addition to, cash. The inevitable consequence of the good faith rule was that the value of the capital paid in began to reflect estimates of anticipated profitability, for such estimates guided even good faith judgments about the value of noncash property.

The nineteenth century conception of corporate value was distinctly classical, tied to the labor theory of property value. The classicist measured value by what had been invested; valuation was a backward-looking concept. Not having marginal utility as a theory of value and needing to explain how value was distributed among diverse goods, the classicists generally resorted to historical factors such as the amount of labor that had been expended on property or the amount that had been invested in it. Of course, the classicist would concede that the best measure of value was an arms-length purchaser's willingness to pay, but willingness to pay was itself a function of that which had been invested. In sum, the traditional par value concept of corporate valuation was identical to the wage-fund theory as a mechanism for placing value on labor.

Marginalism perceived a corporation's value as a function of its ability to earn profits—that is, of the degree by which anticipated revenues would exceed anticipated costs.<sup>188</sup> Indeed, as many neoclassicists would point out, the amount of previous investment often had very little to do with value. Corporations that had invested little but found just the right niche were worth many times more than paid-in capital. Others that had expended giant sums on research that had produced nothing might be worth only a tiny fraction. To be sure, the classicists had known these facts for almost a century, but had been unable to develop a theory of value that would account for them.

The marginalist revolution had several implications for corporate law. First, the entire concept of par value, which measured par as a function of previous investment, was of little worth in measuring the value of a corporation. To be useful at all, the concept of par value had to be based on the current value of the corporation's assets measured by their value to the corporation itself—that is, their capacity to produce a profit or their exchange value in a sale. Thus, George Kennan argued at some length that it was perfectly legitimate for the Chicago & Alton Railroad to reorganize in 1899 and to increase greatly its capitalization even though no additional capital had been paid in to the corpo-

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188. One of the better statements of this position among financial economists is William Lough, *Business Finance* ch. 8 at (Ronald, 1917).

ration. The new value simply represented the railroad's increased ability to earn a profit.<sup>189</sup> Opponents writing in the economics journals generally acknowledged that, in theory, anticipated ability to earn a profit was a superior measure of value than historically invested capital; they complained merely that while invested capital was easily measurable, determining ability to earn a profit was a purely speculative exercise.<sup>190</sup>

In 1909 a group of corporate attorneys led by Francis Lynde Stetson convinced the New York Bar Association to back a proposal to amend the state's corporation law to permit shares to be issued "without the dollar mark"—that is, without a stated par value.<sup>191</sup> In 1912 New York became the first state to pass a statute permitting corporations to issue shares having no, or merely nominal, par value. The statute required the company to state its working capital, but permitted the company to state the value of this capital in terms of current market value, which of course reflected the business prospects of the firm.<sup>192</sup> During the 1910s most states passed similar statutes. By 1927 nearly forty states had amended their corporation statutes to permit no-par shares,<sup>193</sup> and by 1947 every state except Nebraska and Kentucky had done so.<sup>194</sup> As the new statutes developed, they generally permitted the shareholders or directors to declare the capital of the corporation, making changes periodically.<sup>195</sup>

In approving of the no-par statutes, Victor Morawetz, one of the most distinguished corporation scholars in the United States, acknowledged that a business corporation must have a capital that cannot be impaired by the declaration of stock dividends. Nonetheless, Morawetz wrote: "it is not necessary that the amount of capital should be fixed by reference to the nominal or par amount of the shares issued by the corporation, and it is not necessary that the shares should purport to re-

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189. George Kennan, *The Chicago & Alton Case: A Misunderstood Transaction* 28-34 (Country Life, 1916).

190. See James C. Bonbright, *No-Par Stock: Its Economics and Legal Aspects*, 38 Q. J. Econ. 440 (1924); James C. Bonbright, *Earning Power as a Basis of Corporate Capitalization*, 35 Q. J. Econ. 482 (1921).

191. Ripley, *Main Street and Wall Street* at 46 (cited in note 181).

192. Act of April 15, 1912, ch. 351, 1912 Laws of New York §§ 19-23 (amending the stock corporation law, in relation to corporations having shares of capital stock without nominal or par value).

193. See Thompson, *6 Commentaries on the Law of Corporations* § 3627 at 455-56 (cited in note 170).

194. Carlos L. Israels, *Problems of Par and No-Par Shares: A Reappraisal*, 47 Colum. L. Rev. 1279, 1279 (1947).

195. As Berle and Means noted in 1932, virtually all statutes by that time permitted the Board of Directors to declare the capital. See Berle and Means, *The Modern Corporation* at 159 (cited in note 180).

present specified sums of money contributed to the capital."<sup>196</sup> Morawetz noted the emergent view that in most cases the amount of capital paid in bore little relationship to the value or creditworthiness of the corporation:<sup>197</sup> "In most cases, the capital, or a large part of the capital, of a corporation is invested permanently in fixed plant or machinery which cannot again be converted into cash, and whose value, in great measure, depends upon the profitableness of the company's business."<sup>198</sup>

A potential creditor or purchaser of shares probably was less interested in the amount of capital that had been paid into the business than in the business's potential to earn a profit. By the late 1910s a few courts began to hold that the proper measure of the value of property was the going concern value of the property to the corporation rather than its historical value.<sup>199</sup> As a consequence, the trust-fund doctrine gradually disappeared.<sup>200</sup> James Bonbright, one of the best-known scholars of corporate finance from the 1930s, concluded that the emerging definition of corporate value was far more realistic than the classical definition because creditors were much more interested in "going concern" values.<sup>201</sup> In his influential treatise on corporate finance, Arthur Stone Dewing distinguished between economic, accounting, and legal conceptions of corporate capital. Both the legal and the accounting conceptions relied heavily on the stated values of amounts that had previously been paid in. By contrast, businessmen and investors were interested mainly in the economic meaning of capital, which concerned productive value. A corporation might have a patent for which it paid little or nothing, noted Dewing, but which was nevertheless of great value.<sup>202</sup> Rather than basing a corporation's creditworthiness, or "capital," on what had been paid in, one should take account of "anything of concrete and specific value, material or intangible, which afford[ed] def-

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196. Victor Morawetz, *Shares Without Nominal or Par Value*, 26 Harv. L. Rev. 729, 729 (1913).

197. One exception was banks and similar corporations "whose business is to deal in money, credits, and securities, and whose assets are kept in liquid form." *Id.*

198. *Id.*

199. See, for example, *Clinton Mining*, 256 F. at 581-82, which permitted valuation to be based even on the probability that a mining corporation would discover additional ore not yet discovered on the date of the claim.

200. See Thompson, 5 *Commentaries on the Law of Corporations* § 3425 at 260 (cited in note 170), who concluded that the trust-fund doctrine was "not only monstrous but in practicable application would be ruinous to the business management of corporations."

201. Bonbright, 2 *The Valuation of Property* at 801 (cited in note 175) (stating that "[t]he amount of 'invested capital' in which [a creditor] is supposedly interested is the amount of profit-making power which the assets may confer upon the company").

202. Arthur Stone Dewing, 1 *The Financial Policy of Corporations* 55 (Ronald, 4th ed. 1941).

inite help in enabling the corporation to conduct its business at a profit."<sup>203</sup> Although he believed this conception of capital to be correct, Dewing noted that it was easily subject to abuse because a corporation could more easily exaggerate its earnings potential than it could the cash value of specific cash or property that already had been paid in the past.

In defending the rise of no-par shares, Dewing noted simply that "the right to participate in earnings is the fundamental characteristic of stock—not its right to participate in the property. . . ."<sup>204</sup> As a result, no-par shares were designed to "record the proportional rights of their holders in the earnings of the corporation and ignore the amount of the contribution on which their rights were based."<sup>205</sup> Under the classical theory, par value was "the actual and substantial stake contributed by the owners of the business, and on the strength of this stake [it was] justified in asking for and receiving credit."<sup>206</sup> The problem with this theory, however, was that paid-in capital had absolutely nothing to do with the value or creditworthiness of the corporation as a going concern. Dewing wrote:

[A]s soon as the new corporation begins business operations, whatever correspondence between the value of its property and the nominal or money value of its capital stock that may have existed in the beginning, is lost immediately. Some of these operations result in a profit, in which case the corporate property is increased while the amount of outstanding capital stock remains the same; some operations result in a loss, and a discrepancy between the property and the par value of the capital stock arises in the opposite direction. The important thing to observe is that the equality between property and capital stock, however justified at the beginning, is upset by the very operations for which the corporation was organized.<sup>207</sup>

Dewing was more sanguine than Progressive economists about the potential for abuse. In his view no-par shares would increase the participation of investors in corporate affairs. Having removed previously invested capital as a basis for estimating value, the prospective shareholder or lender would be forced to investigate the past and present earnings of the corporation, the history of the corporation and its managers, its standing in the industry, and the value of its shares with reference to current and future interest rates as they are affected by the rise and fall of industrial activity. "These factors and others like them determine values, and anything that forces the investor to seek for

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203. *Id.* at 56.

204. *Id.* at 68.

205. *Id.*

206. *Id.* at 72.

207. *Id.* at 73-74.

them tends to conserve the social capital by encouraging greater intelligence and acumen among investors."<sup>208</sup>

How to assess liability when corporations with no-par stock were found to be undercapitalized was initially a difficult problem for the courts, and they faced the new method of valuation with considerable confusion. In *Norton v. Lamb* the Kansas Supreme Court simply held that subscribers who had not actually paid even the one dollar nominal par value stated on the share certificates could be held liable for that sum.<sup>209</sup> Other courts realized the worst fears of the Progressive critics. They held that no-par shares effectively deprived creditors of a remedy provided that the nominal par, if stated, had been paid and the corporation had met any minimum capitalization requirement assessed by state law. For example, in *G. Loewus & Co. v. Highland Queen Packing Co.*,<sup>210</sup> the incorporators had transferred property worth \$1500 to the corporation but carried it on their books as capital worth \$6000. Under New Jersey law the requirements for issuance of no-par shares had been met, and according to the statute such shares were "deemed fully paid and non-assessable, and the holder of such shares [would] not be liable to the corporation or its creditors in respect thereof."<sup>211</sup> This result denied the creditors any remedy. Likewise, the Sixth Circuit held that the regime created by no-par statutes was essentially "let the creditor beware."<sup>212</sup>

As Dodd and Baker pointed out in their widely used casebook on corporate law, the issuance of no-par shares did not absolve the corporation of its obligation to state its value to potential creditors. Rather, it shifted the focus away from the historical value of capital at the time the shares had been issued to the current value that the corporation stated in its accounting books. With regard to the problem of "watering" of no-par shares, they wrote:

Even where the transaction or acquisition is one of mere barter of no-par shares for property or services, a valuation of the latter is a practical necessity from the mere fact that corporations are expressly or impliedly required to keep books of account, and as yet there is no known way of keeping books in other than monetary terms. So if Blackacre is acquired through the issue of no-par shares, it is necessary to

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208. *Id.* at 75. Compare Richard H. Hollen and Richard S. Tuthill, *Uses of Stock Having No Par Value*, 7 A.B.A. J. 579 (1921) (no-par stock forces the investor to look at the corporation's current value before making an investment decision, rather than focusing on the amount historically paid in).

209. 62 P.2d 1311, 1314 (Kan. 1936).

210. 6 A.2d 545, 545 (N.J. Chanc. 1939).

211. N.J. Rev. Stat. § 14:8-6 (1937).

212. *Johnson v. Louisville Trust Co.*, 293 F. 857, 862 (6th Cir. 1923) (quoting William W. Cook, *Stock Without Par Value*, 7 A.B.A. J. 534 (1921)).

apply to Blackacre some figure in dollars at which to enter it on the books as a debit to an asset account.<sup>213</sup>

In 1947 Carlos Israels noted that a corporation could avoid all stock-watering liability by simply stating its capital conservatively—no greater than a price at which contributed property could readily be sold—and then adding any additional evaluation as paid in surplus. Such a company was not undercapitalized, and creditors could construe the paid-in surplus figure as they wished. In all events, the value of the shares was not driven by the amount that had been paid in:

The investing public has been "educated" to the point where it is now quite willing to pay much more than par for a par value share, and where it is very little concerned with book value, or with the proportion of the price of no-par shares proposed to be credited to capital. Earnings or earnings possibilities appear to dominate investor thinking as to price.<sup>214</sup>

By 1940 economists were taking a much more explicitly marginalist look at the problem. For example, in the second edition of their book on public control of corporations, Charles Tippetts and Shaw Livermore noted that the problem of watered stock had been attended by "much loose thinking and writing."<sup>215</sup> First of all, true value was virtually impossible to determine, and there were several methods of assessing it:

If physical appraisal by engineers is meant, then earnings rates could be matched against a definite figure and a proper amount of securities obtained. But even slight acquaintance with the conditions of competitive industry teaches us that there is no typical relationship between value of physical assets and earning power. It may be very different for a chewing gum concern and a steel plant.<sup>216</sup>

Tippetts and Livermore identified stock as watered simply when its declared value "was larger than a reasonable capitalization rate applied to the earnings" would warrant.<sup>217</sup>

Berle and Means had objected that the rise of no-par shares created yet another opportunity for corporate abuse of outsiders. The movement toward no-par shares gave directors the power to dilute at will the value of outstanding shares.<sup>218</sup> One problem with the marginalist mechanism of establishing value was its imprecision and susceptibility to manipulation. By contrast, the classical theory had been rigorously precise when the capital at issue was cash; it became more speculative only when the contributions had been in property.

213. Edwin Merrick Dodd and Ralph H. Baker, *Cases and Materials on Business Associations* 1004 (Foundation, 1940).

214. Israels, 47 *Colum. L. Rev.* at 1292 (cited in note 194).

215. Charles S. Tippetts and Shaw Livermore, *Business Organization and Public Control* at 378 (D. Van Nostrand Co., 2d ed. 1941).

216. *Id.*

217. *Id.*

218. Berle and Means, *The Modern Corporation* at 159 (cited in note 180).

The need for complete, ongoing disclosure to prospective shareholders thus loomed much larger under the marginalist theory of value because it looked to current capacity to earn a profit rather than historical investment. As late as the 1860s, stock certificates had been looked at as almost a form of "currency," in which the par value stated on the certificate was presumptive evidence of the value of the corporation. Indeed, even in 1924, after no-par stock had become well-established, Cornelius Wickersham complained that "gullible" purchasers continued to believe that the stated par value on a stock certificate somehow represented the value of the shares.<sup>219</sup> Rather, a certificate stating "that the holder is entitled to the share in the assets thereby represented (whatever those assets may be) is a more accurate statement of his rights as a stockholder of the corporation than one designating a par value."<sup>220</sup>

Thus, by the time the Securities Act was passed during the New Deal, the perceived problem was not exaggeration of paid-in capital, but rather "balance sheet inflation." Section eleven of the statute imposed liability on the directors for knowingly making false statements concerning the value of virtually any element of corporate assets, and gave a cause of action to anyone who purchased shares in reliance on such statements.<sup>221</sup>

## V. CONCLUSION

The most general and important implication of marginalism for legal thought was its destruction of the concept that law could be either private or self-executing. As originally conceived deterrence-based legal theories may have rested on some conception of the person of average sensibility, temperament, or carefulness. This conception quickly gave way, however, to the notion that the average person was nothing more than the state's reification of a standard that its decisionmakers wished to impose. Ultimately, the standard was normative and objective.

Just as important, neoclassicism's forward-looking standards of value greatly contributed to the uncertainty and open-endedness of legal policy making. Contracts were no longer thought of as bargains made in the past, but as the creation of ongoing relationships in need of regulation. The transition to no-par corporate shares meant that corpo-

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219. Cornelius W. Wickersham, *The Progress of the Law on No Par Value Stock*, 37 Harv. L. Rev. 464, 464 (1924).

220. *Id.*

221. See *In re Haddam Distillers Corp.*, 1 S.E.C. 37 (1934); *In re Thomas Bond, Inc.*, 5 S.E.C. 60 (1939).

rate creditworthiness could no longer be viewed as the result of a precisely measurable transaction completed in the past.

Looking forward necessarily implied greater uncertainty than looking back, and uncertainty seemed to increase the opportunity for abuse and error. These two factors—the realizations that standards were publicly rather than privately created and that forward-looking policies needed to be managed in ways that backward ones did not—account for the rise of the regulatory state during the New Deal. That was the greatest immediate legacy of the marginalist revolution in legal thought.



