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The American Ideology

by

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The American Ideology

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I. TO THE VICTOR GO THE SPOILS

America, so the world supposes, won the Cold War. Market capitalism and liberal democracy have triumphed over central planning and the dictatorship of the proletariat. American agriculture can measure the magnitude of its victory by the sheer number of academics invited East to advise former Soviet farmers on how to restore the agricultural productivity that once made Russia and Ukraine the coveted Heartland of European geopolitics.[1] America's finest land grant professors are now teaching the heirs of a fallen farmers' and workers' paradise how to rebuild an agricultural economy gutted by decades of collectivization, state ownership, and ecological mismanagement.

Many of these American scholars are offering advice on the structure and operation of agricultural cooperatives. To the Americans' surprise, their Russian and Ukrainian students recoil at the mere mention of the word "cooperative." Cooperative organization dominated the former Soviet system of agricultural planning. The Eastern managers want no further instruction in cooperative organization and expect none from their Western advisors. "Corporations," the former Soviets say. "Isn't Western capitalism based on corporations? Why aren't you teaching us about corporate organization?"

American agricultural cooperatives, of course, scarcely resemble their socialist counterparts. American capitalism accommodates the cooperative. The reverse is also true. Agricultural cooperatives routinely populate the Fortune 500.[2] They supply many of the trade names most familiar to American food consumers: "Land O' Lakes butter, Sunkist and Goldkist oranges, Diamond walnuts, Sunmaid raisins, Sunsweet prunes, Ocean Spray cranberries, Welch's grape

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1. See generally Halford J. Mackinder, *Democratic Ideals and Reality: A Study in the Politics of Reconstruction* 74-77, 110-11 (H. Holt and Co., 1942). It is hard to overstate how profoundly the Teutonic yearning to achieve geopolitical control of the Slavic Heartland has affected twentieth-century European history. See generally Johann Ulrich Folkers, *Geopolitische Geschichtslehre und Volkserziehung* (K. Vowinkel, 1939); Richard Hennig, *Geopolitik: Die Lehre vom Staat als Lebewesen* (B.G. Teuboner, 1931).

2. The 1993 Fortune 500 included: Farmland Industries (145), Agway (149), Land O' Lakes (181), Mid-America Dairymen (230), Farmers Union Central Exchange (238), Gold Kist (287), Ag Processing (325), Ocean Spray (336), Tri Valley Growers (411), Prairie Farms Dairy (458), Riceland Foods (466), and Sun-Diamond Growers (476). See Edmund Faltermayer, *The Fortune 500 Largest U.S. Industrial Corporations*, Fortune 174, 234 (April 19, 1993). Admittedly, these cooperatives' sales paled in comparison with those of the largest shareholder-owned agribusiness firms, such as Philip Morris (7), Conagra (18), Sara Lee (33), Archer Daniels Midland (50), General Mills (68), and Ralston Purina (69). See id. at 232 (showing that each of these firms enjoyed three to 20 times the sales volume commanded by Land O' Lakes).

juice."[3] By the terms of the stereotypically American brand of capitalism, actual performance in competitive markets proves whether cooperatives "organized by producers for their mutual benefit" do in fact "distribute the largest amounts to . . . [their] patrons" and thereby outperform shareholder-owned corporations.[4]

Such are the gamesmanlike terms on which corporations, cooperatives, and other business actors vie for economic supremacy—except in agriculture. American farmers and their political allies detest the corporation, that icon of unrestrained American capitalism, as the emblem of all that is "agriculturally incorrect." The proof lies in differential legal treatment: whereas many states in America's agricultural heartland restrict corporate ownership of farmland and corporate involvement in farming,[5] the federal government has conferred numerous statutory benefits on agricultural cooperatives.[6] Nothing symbolizes agriculture's ideological isolation from the legal and economic culture of American business as dramatically as the battery of exemptions shielding agricultural cooperatives from antitrust liability. In nonagricultural disputes over market structure and industrial organization, the Supreme Court of the United States frequently hails the federal

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3. Keith Meyer, Donald Pedersen, Norman Thorson, and John Davidson, Jr., *Agricultural Law: Cases and Materials* 573-74 (West, 1985).

4. *United States v. Rock Royal Co-op., Inc.*, 307 U.S. 533, 564 (1939). Compare Donald N. McCloskey, *If You're So Smart* 111 (U. of Chicago, 1990) (stating that "[F]rom Maine to California the capitalistic, American democrat relishes [the] American Question: 'If you're so smart why ain't you rich?' ").

5. Iowa Code Ann. §§ 172C.1-.15 (1990); Kan. Stat. Ann. § 17-5902 to -5905 (Supp. 1994); Minn. Stat. Ann. § 500.24 (1990); Mo. Stat. Ann. § 350.010-.030 (1991); Neb. Const., Art. XII, § 8; N.D. Cent. Code Ann. §§ 10-06-01 to -15 (1985); Okla. Stat. Ann. tit. 18, §§ 951-956 (1986); S.D. Codified Laws §§ 47-9A-1 to -23 (1991); Wis. Stat. § 182.001 (1992). See generally Keith D. Haroldson, *Two Issues in Corporate Agriculture: Anticorporate Farming Statutes and Production Contracts*, 41 Drake L. Rev. 393 (1992); Fred L. Morrison, *State Corporate Farm Legislation*, 7 U. Toledo L. Rev. 961 (1976); Brian F. Stayton, *A Legislative Experiment in Rural Culture: The Anticorporate Farming Statutes*, 59 U.M.K.C. L. Rev. 679 (1991); Martin J. Torshynski, *Corporate Ownership Restrictions and the United States Constitution*, 24 Ind. L. Rev. 1657 (1991).

6. See, for example, Clayton Act of 1914, § 6, codified at 15 U.S.C. § 17 (1988); Capper-Volstead Act of 1922, codified at 7 U.S.C. §§ 291-292 (1988); Cooperative Marketing Act of 1927, codified at 7 U.S.C. §§ 451-457 (1988); Agricultural Adjustment and Agricultural Marketing Agreement Act of 1937, § 2(a), codified at 7 U.S.C. § 608b(a) (1988); Robinson-Patman Act of 1939, § 4, codified at 15 U.S.C. § 13b (1988); I.R.C. §§ 521, 1381-1383 (1995). See generally *Fairdale Farms, Inc. v. Yankee Milk, Inc.*, 635 F.2d 1037, 1040-43 (2d Cir. 1980) (surveying the history of statutes enacted for the benefit of "agricultural cooperatives . . . [as] 'a favorite child of Congressional policy' ").

antitrust laws as "the Magna Carta of free enterprise."[7] By contrast, American agriculture regards the Capper-Volstead Act of 1922,[8] the most significant legislation *exempting* farmer-owned cooperatives from the antitrust laws, as the great charter of economic freedom for farmers, the veritable and venerable "Magna Carta of Cooperative Marketing."[9]

American law has historically envisioned the agricultural cooperative as the agrarian equivalent of the labor union. The text of the first federal statute enacted for the benefit of farmers' cooperatives actually begins by declaring that "[t]he labor of a human being is not a commodity or article of commerce."[10] The name of Minnesota's left-wing political party, "Democratic-Farmer-Labor," reflects the traditional alliance between freehold farming and wage labor, just as the Soviet hammer and sickle symbolized cooperation between agricultural and industrial laborers. But the cultural status of the agricultural cooperative in American law transcends mere class struggle. By enabling their members to "retain control over production and marketing decisions," cooperatives give farmers a degree of economic freedom not enjoyed by their unionized counterparts in the urban workforce.[11] The law of agricultural cooperatives in the United States rewards proprietorship, not merely labor as such. Although American law encourages freehold farmers to form cooperative associations, it extends no similar privileges to unskilled farm workers. Thus, even as the National Labor Relations Act's definition of "employee"

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7. *Atlantic Richfield Co. v. USA Petroleum Co.*, 495 U.S. 328, 360 n.19 (1990) (Stevens, J., dissenting); *Mitsubishi Motors Corp. v. Soler Chrysler-Plymouth, Inc.*, 473 U.S. 614, 651 (1985) (Stevens, J., dissenting); *Associated Gen. Contractors of Cal., Inc. v. California State Council of Carpenters*, 459 U.S. 519, 538 n.38 (1983); *Community Communications Co. v. City of Boulder*, 455 U.S. 40, 57 n.19 (1982); *California Retail Liquor Dealers Ass'n v. Midcal Aluminum, Inc.*, 445 U.S. 97, 110 (1980); *City of Lafayette v. Louisiana Power & Light Co.*, 435 U.S. 389, 398 n.16 (1978); *Vendo Co. v. Lektro-Vend Corp.*, 433 U.S. 623, 666 (1977) (Stevens, J., dissenting); *Flood v. Kuhn*, 407 U.S. 258, 291 (1972) (Marshall, J., dissenting); *United States v. Topco Assocs., Inc.*, 405 U.S. 596, 610 (1972).

8. 7 U.S.C. §§ 291-292 (1988).

9. Theodore Saloutos, *The American Farmer and the New Deal* 27 (Iowa State U., 1982).

10. Clayton Act of 1914, § 6, codified at 15 U.S.C. § 17 (1988). See *National Broiler Marketing Ass'n v. United States*, 436 U.S. 816, 830 (1978) (Brennan, J., concurring) (stating that the Clayton Act "linked industrial labor and farmers as the kind of economic units of individuals for whom it was thought necessary to permit cooperation . . . in order to survive against the economically dominant manufacturing, supplier, and purchasing interests with which they had to interrelate"). This legislation represented an unsuccessful congressional effort to block judicial manipulation of the antitrust laws as a basis for injunctions against striking workers. See Melvyn Dubofsky, *The State and Labor in Modern America* 2, 4-25, 29, 45-58, 87-88, 95, 101 (U. of N.C., 1994).

11. Neil D. Hamilton, *Agriculture Without Farmers: Is Industrialization Restructuring American Food Production and Threatening the Future of Sustainable Agriculture?*, 14 N. Ill. L. Rev. ___ (forthcoming).

excludes farm workers (and therefore eliminates their entitlement to collective bargaining and protection from unfair labor practices),[12] agricultural producers as independent contractors enjoy organizational privileges and legal protection against coercive practices by product handlers.[13] Freehold farmers as private landowners are *rentiers* to the extent they profit from appreciation of their land;[14] as employers of seasonal workers, they exploit any "surplus value" from employee labor.[15] Although the Fair Labor Standards Act ("FLSA")[16] no longer excludes all agricultural employees from its protective reach,[17] American agriculture to this day treats the wages of landless farm laborers as an annoying operating cost fit to be curbed through a scaled-back exemption from the FLSA's provisions on minimum wages and maximum hours.[18] We should have expected as much from legislation born of a desire to preserve Southern farmers' access to cheap black labor[19] and twisted by its tendency to encourage unfettered expansion.[20] So much for Bolshevik solidarity among all workers.

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12. See 29 U.S.C. § 152(3) (1988); *Bayside Enterprises, Inc. v. NLRB*, 429 U.S. 298, 300 (1977). Compare 29 U.S.C. § 213(a)(6) (1988) (excluding agricultural employees from the minimum wage and maximum hour provisions of the Fair Labor Standards Act, 29 U.S.C. §§ 206-207 (1988)).

13. See Agricultural Fair Practices Act of 1967, 7 U.S.C. §§ 2301-2305 (1988); *Michigan Canners & Freezers Ass'n, Inc. v. Agricultural Marketing & Bargaining Bd.*, 467 U.S. 461, 464-65 (1984); *Baldree v. Cargill, Inc.*, 758 F. Supp. 704, 707 (M.D. Fla. 1990).

14. Compare Henry George, *Progress and Poverty* 545 (Robert Schalkenbach Foundation, 1929) (urging the imposition of a single, massive tax on rents from real property as the solution to all of society's ills).

15. See generally Migrant and Seasonal Agricultural Worker Protection Act, 29 U.S.C. §§ 1801-1872 (1988); *Flores v. Rios*, 26 F.3d 783 (7th Cir. 1994); *Bueno v. Mattner*, 829 F.2d 1380 (6th Cir. 1987); *Calderon v. Witvoet*, 764 F. Supp. 536 (C.D. Ill. 1991).

16. 29 U.S.C. §§ 201-219 (1988).

17. See Pub. L. No. 89-601, § 203(a), 80 Stat. 833 (Sept. 23, 1966), codified at 29 U.S.C. § 213(a)(6) (1988) (limiting the wage-and-hour exemption to employers using less than 500 man-days of agricultural labor, members of a farm employer's immediate family, certain hand laborers, and employees "principally engaged in the range production of livestock").

18. See 29 U.S.C. § 213(a)(6) (1988).

19. See Herbert Hill, *Black Labor and the American Legal System: Race, Work, and the Law* 97 (B.N.A., 1977) (discussing unequal treatment of black workers as a result of New Deal laws); Patrick M. Anderson, *The Agricultural Employee Exemption from the Fair Labor Standards Act of 1938*, 12 Hamline L. Rev. 649, 656 (1989) (discussing New Deal legislation as part of a conspiracy to subjugate blacks); Marc Linder, *Farm Workers and the Fair Labor Standards Act: Racial Discrimination in the New Deal*, 65 Tex. L. Rev. 1335, 1371-75 (1987) (using statements from the legislative history to show the racial impact of the FLSA's exemptions).

20. For exemplary cases illustrating the agricultural exemption's pro-expansion effect, see *Maneja v. Waialua Agricultural Co.*, 349 U.S. 254, 259-60 (1955) (discussing sugar cane plantation employees' status under the FLSA); *Farmers Reservoir & Irrigation Co. v. McComb*,

In light of a history that watched Sunkist transmogrify itself from the model for lawful cooperative enterprise[21] into the unreconstituted and unliquidated citrus empire that once cornered two-thirds of the American market for juice oranges,[22] one wonders how American law ever came to accord such mystical significance to the letter "r"—the single letter that separates a "Coop." from a "Corp." But I digress. I offer no opinion on whether cooperative organization can "ensur[e] that the ultimate unit of control" over Eastern European agriculture remains "at the farm level" during "the transition from socialism."[23] Nor do I intend to assess the relative merits of cooperative and corporate organization. Such a gargantuan task would begin with the recognition that the "countervailing power" strategy underlying both the cooperative movement in agriculture and the trade union movement in labor are "indeterminate with a vengeance."[24] In this prescriptive fog, only those observers with no formal ties to the American agricultural establishment seem willing to cast truth-seeking light on the ultimate normative issue: whether bilateral oligopoly as shaped by the Capper-Volstead Act and allied statutes benefits consumers.[25] Even when disputing the cooperative movement's claims of agrarian virtue and commercial success, American agricultural economists suggest, by the nature of the questions they ask, that the answer we should all be seeking is whether countervailing power for farmers translates into income gains for production agriculture.[26]

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337 U.S. 755, 760-62 (1949) (discussing a Western irrigation cooperative's attempt to invoke the agricultural employee exception).

21. See *Sunkist Growers, Inc. v. Winckler & Smith Citrus Prods. Co.*, 370 U.S. 19, 28-29 (1962) (noting that the congressional supporters of the Capper-Volstead Act explicitly endorsed the structure of Sunkist's predecessor organizations).

22. See *Case-Swayne Co. v. Sunkist Growers, Inc.*, 389 U.S. 384, 388 (1967) (noting that Sunkist controlled 70% of oranges grown in California and Arizona and 67% of oranges used for juice and other processed foods in the United States).

23. Nancy L. Johnson and Vernon W. Ruttan, *Why Are Farms So Small?*, 22 World Dev. 691, 702 (1994).

24. F.M. Scherer and David Ross, *Industrial Market Structure and Economic Performance* 519 (Rand McNally, 3d ed. 1990). See generally id. at 517-38; John Kenneth Galbraith, *American Capitalism, The Concept of Countervailing Power* 128-31 (Houghton Mifflin, 1952).

25. See, for example, *National Broiler Marketing Ass'n v. United States*, 436 U.S. 816, 842-43 & n.4 (1978) (White, J., dissenting) (citing George Stigler, *The Theory of Price* 207-08 (Macmillan, 3d ed. 1966); Milton Friedman, *Price Theory* 191-92 (Aldine, 1976); Gary S. Becker, *Economic Theory* 94-95 (Knopf, 1971)).

26. See, for example, Don Paarlberg, *Farm and Food Policy: Issues of the 1980s* 32-33 (U. of Neb., 1980); George E. Brandow, *Policy for Commercial Agriculture*, in Lee R. Martin, ed., 1 *Survey of Agricultural Economics Literature* 265-66 (U. of Minn., 1977). The answer, for what it is worth, is "probably not that much." In all fairness, most agricultural economists are constrained by the academic politics of the land grant universities where they work. These economists ask the producer welfare question because the land grant universities' traditional constituents—farmers—want the answer and because the farmers' legislative patrons control

Why, despite the triumph of the consumer welfare model in virtually every other facet of American economic thought, does producer welfare continue to dominate agricultural policy in the United States?[27]

America's agricultural economy has delivered the blessings of prosperity to its own citizens. The productive capacity of American farming promises to feed masses throughout the world, so much so that American agricultural exports routinely strike terror in the hearts of foreign competitors.[28] Cultural disdain for socialism—so intense as to be "remarkable"—long ago converted most Americans into "energetic and articulate defenders" of capitalism, in stark contrast with other nations that dabbled (in varying degrees) with the socialist experiment.[29] Amid the material and metaphysical riches of the American economic system, of the American way of life, the

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access to lucrative sources of research funding. Despite these constraints, agricultural economists as a group have shed the greatest amount of light on the structural and firm-specific implications of technological change. See Kenneth E. Boulding, *The Economics of Knowledge and the Knowledge of Economics*, 56 Am. Econ. Rev. 1, 12 (1966).

27. Compare C. E. Bishop, *The Urbanization of Rural America: Implications for Agricultural Economics*, 49 J. Farm Econ. 999, 1002-05 (1967) (criticizing the separatist professional heritage of agricultural economics).

28. See, for example, Al J. Daniel, Jr., *Agricultural Reform: The European Community, the Uruguay Round, and International Dispute Resolution*, 46 Ark. L. Rev. 873, 885-918 (1994) (noting the significance of agriculture in international trade agreements); James R. Arnold, Note, *The Oilseeds Dispute and the Validity of Unilateralism in a Multilateral Context*, 30 Stan. J. Intl. L. 187, 189-92 (1994) (discussing the impact of agricultural disputes on international trade relationships). Compare, for example, Jimmye S. Hillman, *Agriculture in the Uruguay Round: A United States Perspective*, 28 Tulsa L. J. 761, 761-64 (1993), with Henricus A. Strating, *The GATT Agriculture Dispute: A European Perspective*, 18 N.C. J. Intl. L. & Com. Reg. 305, 311-14 (1993). The United States in 1992-93 not only produced roughly a tenth of the world's wheat—59.525 million metric tons of the world's 557.993 million metric ton harvest, or 10.7%—it also led the world with 35.117 million metric tons in wheat exports. See United States Department of Agriculture, *Agricultural Statistics 1993* at 9-10, 12 (G.P.O., 1993) ("*Agricultural Statistics*"). By contrast, although the republics of the former Soviet Union outproduced the United States with a wheat harvest of 87.850 million metric tons, those nations led the world in imports (21.485 million metric tons). See id. The United States holds dominant positions in feed grain and oilseed markets, enjoying more than two-fifths of the world's maize harvest, see id. at 33-34 (217.815 million metric tons of the world's 526.631 million metric tons harvested in 1992-93, or 41.4%), and more than half of the world's soybean harvest, see United Nations, Food & Agric. Org., *FAO Yearbook 1992* at 115-16 (FAO Statistics Series Vol. 46, No. 112, 1992) (59.780 million metric tons of 114.011 million metric tons, or 52.4%). The United States' share of the world's corn and soybean export markets has oscillated between 60 and 70%. See United States Department of Treasury, *Statistical Abstract of the United States* 677 (G.P.O., 114th ed. 1994) ("*Statistical Abstract*").

Since 1988, the United States' agricultural annual trade *surplus* has not dipped below $16 billion. See id. at 678. In 1992 alone, American agricultural exports exceeded imports by $18.3 billion. See id. By contrast, that same year, Americans imported $96.097 billion more in goods than they imported, and the United States' general balance of payments reflected a $40.384 billion deficit. See id. at 818.

29. John Kenneth Galbraith, *Economics and the Art of Controversy* 35 (Rutgers U., 1955).

American farmer is nevertheless a largely disgruntled naysayer.[30] Bluntly stated, agricultural policy in the world's most productive agricultural nation "has focused on losers."[31] The American agricultural academy's ongoing *Drang nach Osten*[32] highlights these contradictions: Even as former Soviets worship a capitalist myth based on industrial reality, many American farmers and their advocates long for an unattainable socialist reality based on agrarian myth.

Once again, urban Caesar bestrides the world like a Colossus, while his rural counterpart, Cincinnatus, retreats to his humble homestead.[33] But isolationism in defense of agrarianism is no virtue. At a crucial moment when economic desolation in the Eastern Bloc and societal disintegration in the Southern Hemisphere demand full attention to affairs of state, America's citizen-farmers are publicly renouncing the economic and political precepts that have transfigured the United States into the Roman Empire of the modern world. But why? The answer lies within the intricate philosophical labyrinth that I call the American Ideology.

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30. Unhappiness, of course, is a time-honored agrarian tradition. See generally Theodore Saloutos and John D. Hicks, *Agricultural Discontent in the Middle West, 1900-1939* (U. of Wis., 1951).

31. D. Gale Johnson, *U.S. Agricultural Programs as Industrial Policy*, in S.R. Johnson and S.A. Martin, eds., *Industrial Policy for Agriculture in the Global Economy* 307, 308 (Iowa State U., 1993).

32. *Drang nach Osten* describes various Teutonic and German plots to conquer eastern territories now within the political boundaries of Poland, Russia, Belarus, and the Baltic States. See generally Hans-Heinrich Nolte, *"Drang nach Osten": Sowjetische Geschichtsschreibung der Deutschen Ostexpansion* (Europäische Verlagsanstalt, 1976); Eduard Otto Schulze, *Die Kolonisierung und Germanisierung der Gebiete Zwischen Saale und Elbe* (S. Hirzel, 1896); Herman Schreiber, *Land im Osten: Verheißung und Verhängnis der Deutschen* (Econ-Verlag, 1961); Herman Schreiber, *Teuton and Slav: The Struggle for Central Europe* (James Cleugh, trans.) (Constable, 1965). On occasion the term encompasses twentieth-century strategems such as the Nazi conquest of Poland and invasion of the Soviet Union. See, for example, Ludwik Gelberg, *The Warsaw Treaty of 1970 and the Western Boundary of Poland*, 76 Am. J. Int'l L. 19, 21 (1982).

33. Compare William Shakespeare, *Julius Caesar*, act I, sc. 2, *ll.* 135-36 (Ginn and Company, 1971) with Eutropius, *Abridgement of Roman History* Bk. I, ch. xvii at 7 (John S. Watson, trans.) (Hinds & Noble, n.d.) and *The Oxford Classical Dictionary* 241 (Oxford, 2d ed. 1970). Following a blockade of the Roman army in 458 B.C., Lucius Quintius Cincinnatus was called from plowing his four acres of land and appointed dictator of Rome. He liberated the army, resigned his dictatorship after sixteen days, and returned to his farm beyond the Tiber. The American Cincinnatus was, of course, George Washington. See, for example, Garry Wills, *Cincinnatus: George Washington and the Enlightenment* (Doubleday, 1984); James Thomas Flexner, *Cincinnatus Assayed: Washington in the Revolution*, in James Morton Smith, ed., *George Washington: A Profile* 86 (Hill & Wang, 1969).

II. PROPHETS, PROFITS, AND PROFLIGATE PROGRESSIVES

In *The German Ideology*, Karl Marx castigated the tendency of his Hegelian contemporaries to idolize "the realm of pure thought," to overlook "the connection of German philosophy with German reality, the relation of their criticism to their own material surroundings."[34] Instead, Marx wrote, human civilization—as distinct from the threadbare form of survival perfected by numerous other animal species—begins with the production of means to satisfy the need for physical subsistence.[35] German philosophy begins only after the German philosopher puts pumpernickel on the breakfast table. But if cooperation to secure the production of means is the first step in human civilization, conflict over the means of production is surely the second. Marx recognized that *Verkehr*—"intercourse" or "traffic" among discrete individuals—not only supplies the material impetus that makes human survival possible, but also sparks the inevitable struggle over the necessarily limited scarce resources to be distributed among the members of any human community.[36]

According to Marx, then, the German Ideology is the fallacy that human civilization begins with any step other than the acquisition of food, fiber, and fuel—the indispensable commodities that keep human beings in a hostile environment from being converted into fodder or fertilizer. A century and a half of experience with Marx's historical materialism has apparently failed to penetrate the conscience of American agriculture, for the American Ideology can be defined in virtually identical terms. The American Ideology is the fallacy that human civilization *ends* upon the acquisition of food, fiber, and fuel, that life necessarily begins and properly ends on the farm. At bottom, the American Ideology epitomizes all that is idyllic and innocent: all is for the best in this best of all possible worlds, a world we can attain if only we would "cultivate our garden."[37] Its adherents seek a transcendentally "adequate" supply of agricultural production and denigrate the desire for any surplus as a consumptive

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34. Karl Marx, *The German Ideology*, in Robert C. Tucker, ed., *The Marx-Engels Reader* 110, 111, 113 (Norton, 1972).

35. Id. at 114.

36. Id.

37. Compare Voltaire, *Candide, Or Optimism* 2 (Robert M. Adams, ed. & trans.) (Norton, 1991) (stating that "in this best of all possible worlds . . . . everything is for the best") with id. at 75 (stating that "[t]hat is very well put, . . . but we must cultivate our garden").

excess to be damned and discouraged.[38] In its most extreme manifestation, the American Ideology is a religion. "[A]gricultural fundamentalism" teaches that "agricultural welfare [is] synonymous with national well-being,"[39] and that "a healthy and prosperous agriculture generate[s] action, income and wealth for farmers and nonfarmers alike."[40]

By the terms of the American Ideology, "[a]griculture is the greatest and fundamentally the most important of our American industries," the only industry that really matters.[41] The farm sector's economic, social, political, and cultural primacy is self-evident. This belief in farm life as a bellwether for the rest of society has endured throughout American history and has transcended numerous social barriers. Benjamin Franklin extolled agriculture as "the only honest way" for "a nation to acquire wealth," in stark contrast with the alternatives of war ("plunder[ing]") and commerce ("generally cheating").[42] Alexander Hamilton, the urban industrialist *par excellence* of the Revolutionary Era, confessed that "the cultivation of the earth, as the primary and most certain source of national supply . . . has intrinsically a strong claim to pre-eminence over every other kind of industry."[43] Even the urbanite Theodore Roosevelt wrote in 1908 that "[n]o nation has ever achieved permanent greatness unless this greatness was based on the well-being of the great farmer class, the men who live on the soil; for it is upon their welfare, material and moral, that the welfare of the nation ultimately rests."[44] A mere dozen years before, in a speech attacking Roosevelt's political patron, William McKinley, William Jennings Bryan delivered these fighting words in his famous "Cross of Gold" speech:

> You come to us and tell us that the great cities are in favor of the gold standard; we reply that the great cities rest upon our broad and fertile prairies. Burn down your cities and leave our farms, and your cities will spring up again

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38. One of the most prominent historical examples of this ethic was the vision of the "ever normal granary" that inspired centrally managed supply control during the New Deal. See generally Henry A. Wallace, *Definition of the Ever Normal Granary*, 14 Agric. Situation 9 (1937); Joseph S. Davis, *The Economics of the Ever-Normal Granary*, 20 J. Farm Econ. 8 (1938); Harold F. Breimyer, *Agricultural Philosophies and Policies in the New Deal*, 68 Minn. L. Rev. 333, 346-47 (1983).

39. Gilbert C. Fite, *American Farmers: The New Minority* 39 (Indiana U., 1981).

40. Saloutos, *The American Farmer and the New Deal* at 63 (cited in note 9).

41. Bernard M. Baruch, *Some Aspects of Farmers' Problems*, Atlantic Monthly 111, 112 (July, 1921).

42. Benjamin Franklin, *Positions to Be Examined Concerning National Health* (April 4, 1769).

43. Richard Hofstadter, *The Age of Reform: Bryan to FDR* 27 (Knopf, 1955).

44. Fite, *American Farmers* at 37 (cited in note 39).

> as if by magic; but destroy our farms and the grass will grow in the streets of every city in the country.[45]

A lifetime later, American agrarian philosopher Wendell Berry echoed Roosevelt's and Bryan's themes by asking "why, after generations of . . . inpouring of rural wealth, materials, and humanity into the cities, are the cities and countryside in equal states of disintegration and disrepair?"[46] "Why," he asked rhetorically, "have the rural and urban communities *both* fallen to pieces?"[47] The unstated and unsupported assumption is that high returns on farming will trickle down throughout the rest of society. Throughout the heyday of parity-based price and income support for agricultural law—a period roughly bounded by the passage of the Agricultural Adjustment Act of 1933[48] and the Agricultural Act of 1949[49]—farmers' advocates went so far as to assert that every dollar of gross farm income would add seven dollars to national income.[50] If the astonishing sevenfold multiplier effect associated with farm support dollars were true, the United States could—and should—reduce its industrial policy to a single law guaranteeing every farm operator or manager an income equivalent to one-seventh the gross domestic product divided by the number of farm operators and managers in the United States. In 1993, such a law would have guaranteed each farmer a minimum income of roughly

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45. William Jennings Bryan, *The Cross of Gold Speech* (July 9, 1896), in Carl G. Brandt and Edward M. Shafter, Jr., eds., *Selected American Speeches on Basic Issues (1850-1950)* 182, 189 (Houghton Mifflin, 1960). Compare Baruch, Atlantic Monthly at 112 (cited in note 41) (stating that "[t]he cities are but the branches of the tree of national life, the roots of which go deeply into the land. We all flourish or decline with the farmer").

46. Wendell Berry, *The Unsettling of America: Culture and Agriculture* 137 (Sierra Club Books, 1977).

47. Id.

48. Act of May 12, 1933, ch. 25, 48 Stat. 31, codified as amended at 7 U.S.C. §§ 601-624 (1988).

49. Pub. L. No. 81-439, ch. 792, 63 Stat. 1051, codified as amended in scattered sections of 7 U.S.C.

50. Saloutos, *The American Farmer and the New Deal* at 63 (cited in note 9) (describing the agricultural fundamentalists who lobbied for farm income protection during the New Deal on the assumption that the national income of the United States would inexorably be seven times the nation's agricultural income); *1949 Extension of the Reciprocal Trade Agreements Act, Hearings Before the House Committee on Ways and Means on H.R. 1211*, 81st Cong., 1st Sess. 377 (1949) (testimony of Carl H. Wilken) (arguing, during the consideration of the United States' post-World War II agricultural policy, that "[u]nless Congress recognizes the simple fact that each $1 of gross farm income generates $7 of national income, theory and legislation resulting from theories can easily legislate the United States into bankruptcy and chaos").

$780,000.[51] In light of how incomes in the fishing industry have historically risen by $1 for every $7 change in national income, the United States could achieve a comparable "trickle-down" effect for far less simply by "subsidizing [a] fishing industry" whose "gross income constitutes less than one percent of the national income."[52]

Marx, by contrast, expressed great admiration for the motivating power of greed and the liberating power of industrialization. To be sure, Marx acknowledged what every agrarian philosopher has emphasized: the historical animosity between "town and country" as a reflection of the quintessential "division" between "material and mental labour."[53] But he viewed the relationship in a profoundly different light, aggressively extolling the deliverance of agrarian labor from the dreary "realm of necessity" into a dreamy "realm of freedom."[54] For this process he credited the expansion of economic productivity under bourgeois capitalism:

> The bourgeoisie, by the rapid improvement of all instruments of production, by the immensely facilitated means of communication, draws all, even the most barbarian, nations into civilisation. The cheap prices of its commodities are the heavy artillery with which it batters down all Chinese walls.... It compels all nations, on pain of extinction, to adopt the bourgeois mode of production; it compels them to introduce what it calls civilisation into their midst, *i.e.*, to become bourgeois themselves. In one word, it creates a world after its own image.[55]

By "subject[ing] the country to the rule of the towns," the bourgeois capitalism of Marxist philosophy "rescued a considerable part of the population from the idiocy of rural life."[56]

From *The German Ideology* to *The Communist Manifesto* and *Capital*, Marx as rural sociologist consistently favored industrialization of agriculture and the subjugation of agrarian producers' interests to urban consumers' interests. Were he alive today, Marx would laud the infusion of production-enhancing technology "even when the

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51. See *Statistical Abstract* at 409, 451 (cited in note 28) (reporting that 1.170 million Americans were employed as farm operators or managers in 1993 and that the gross domestic product that year was $6.3779 trillion).

52. D. Gale Johnson, *Government and Agriculture: Is Agriculture a Special Case?*, 1 J. L. & Econ. 122, 124 (1958).

53. Marx, *The German Ideology* at 140 (cited in note 34).

54. Karl Marx, *On the Realm of Necessity and the Realm of Freedom*, in Robert C. Tucker, ed., *The Marx-Engels Reader* 319 (Norton, 1972) (drawing from the third book of Capital).

55. Karl Marx and Friedrich Engels, *Manifesto of the Communist Party*, in Robert C. Tucker, ed., *The Marx-Engels Reader* 331, 339 (Norton, 1972).

56. Id.

effect upon . . . farmers may be negative."[57] To him, liberating labor formerly dedicated to "the production of food and fiber" would enable society "to do other things, to produce other goods and services that it wants."[58] For Marx, the continuing decline in the already minimal farm populations of today's industrialized societies would commemorate the technology-driven liberation of multitudes from "the drudgery of farming."[59] He would rudely mock "sustainable agriculture," the most prominent variant of the increasingly popular and politically powerful "alternative" movement in American agriculture.[60] No less than Adam Smith, Marx hailed the progress made possible by the bourgeois classes' yearning for material comfort and cerebral gratification. He would regard the currently fashionable alliance between environmental activists and small farm advocates as the product of muddle-headed yearning for a rustic utopia that never existed. Such disdain for the agroecological ideal of "voluntary simplicity" sharply separates Marxist philosophy from the fundamental tenets of the sustainability movement.[61]

Ironically, the industrial creed central to American capitalism off the farm is truer to Karl Marx than the ideology now preached by many agrarian activists who purportedly derive their "progressive" politics from Marx's teachings. It is no longer possible to equate farm income with rural welfare:[62] "policies that enhance *industrial* competitiveness and improve the comparative advantage of rural and agricultural areas will, in the long run, have a greater impact."[63] The agrarian movement's stunning indifference to the economic interests of nonentrepreneurial farmworkers speaks volumes about agrarianism's commitment to distributive justice as a progressive political ideal.

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57. Marion Clawson, *Policy Directions for U.S. Agriculture: Long-Range Choices in Farming and Rural Living* 366 (Johns Hopkins, 1968).

58. Id.

59. Hiram M. Drache, *Beyond the Furrow: Some Keys to Successful Farming in the Twentieth Century* 430 (Interstate Printers & Publishers, 1976).

60. See generally Hugh Lehman, E. Ann Clark, and Stephen F. Weise, *Clarifying the Definition of Sustainable Agriculture*, 6 J. Agric. & Envt'l Ethics 127 (1993).

61. See Curtis E. Beus and Riley E. Dunlap, *Conventional Versus Alternative Agriculture: The Paradigmatic Roots of the Debate*, 55 Rural Sociology 590, 608-09 (1990).

62. For a succinct but powerful refutation of the longstanding assumption that farmers' incomes lag behind nonfarmers' incomes, see Bruce Gardner, *Demythologizing Farm Income*, Choices 22 (1st Q. 1993).

63. Stuart A. Rosenfeld, *Building Industrial Competitiveness in Rural Areas*, in S. R. Johnson and S. A. Martin, eds., *Industrial Policy for Agriculture in the Global Economy* 201, 202 (Iowa State U., 1993).

In this sense, I do not accuse American agriculture of being too Marxist. My complaint is that American agriculture is not Marxist enough.

American agrarians have remained true, however, to one aspect of Marxist philosophy. The development and ongoing reinvention of the American Ideology demonstrate unequivocally that the political and legal history of American agriculture, like "[t]he history of all hitherto existing society," has been "the history of class struggle."[64] Nevertheless, the agriculturally illiterate American public has altogether overlooked a crucial shift in the battle lines that define class struggle in this post-agrarian age.

The workers' paradise that Marx envisioned never materialized. Rather, economic progress has created a new type of class struggle, one between farmers and practically every other segment of the American population. Stunning demographic changes in the United States now pit the political and economic interests of farmers against those of urban, industrial laborers.[65] Whatever actual consumer benefit (if any) resulted from the historical alliance between disorganized agriculture and organized labor has been rendered irrelevant. Marx, to be sure, did foresee the blossoming of bourgeois values and bourgeois populations. Instead of fomenting socialist *revolution*, however, the explosive growth of the urban bourgeoisie in capitalist societies sparked a slower but vastly more corrosive process of *evolution*. In an age when farmers have shrunk to a negligible portion of the overall population,[66] safeguarding the economic interests of farm entrepreneurs no longer guarantees the well-being of any broad social group—not on the farm, not in rural areas, and not in society at large. Today and in our foreseeable future, producer primacy in

64. Marx and Engels, *Manifesto of the Communist Party* at 335 (cited in note 55).

65. See Neil D. Hamilton, *Feeding Our Future: Six Philosophical Issues Shaping Agricultural Law*, 72 Neb. L. Rev. 210, 218-20 (1993) (stating that fewer farms, larger operations, and concentrated land ownership are a result of changing demographics).

66. Out of a 1992 civilian population of approximately 253,497,000, only 4,665,000 Americans (1.8 percent of the total) lived on farms. See *Agricultural Statistics* at 353 (cited in note 28). That figure may overstate the farm population, since the Department of Agriculture and the Census Bureau define the "[f]arm population" as "all persons living on rural places with $1,000 or more of agricultural sales." Id. Compare 7 C.F.R. § 1980.106(b)(7) (defining a "farm" as a "tract or tracts of land . . . used in the production of crops, livestock, and/or aquacultural products for sale in sufficient quantities so that the property is recognized as a farm rather than a rural residence"). Of the 119,306,000 million Americans who were employed in 1993, only 3,074,000 (2.58%) worked in agriculture. See *Statistical Abstract* at 412 (cited in note 28). Of these agricultural workers, fewer than half (merely 1,332,000) were self-employed. See id. at 404. In 1992, the total number of unpaid farmworkers (i.e., self-employed farm operators and working members of their families) fluctuated between 1,746,000 and 2,140,000. See *Agricultural Statistics* at 358.

American law and politics will exact a heavy price from the most vulnerable consumers not only in the United States, but also in a world economy that depends ever more heavily on industrialized food production in the United States.

As long as civilized society keeps accruing wealth and innovating technologically, the demand for farm labor will erode. In particular, the advent of modern biotechnology[67] will shrink the economic value of the peculiar form of labor historically supplied by freehold farmers in the United States.[68] Neither the American Ideology nor any other formalized system of wishful thinking can alter the mechanics of the "agricultural treadmill" that persistently grinds farm prices, farm incomes, and farm employment prospects into oblivion. Given this restraint, agrarian activists can retard the decline of the farm sector only by coercively limiting agricultural output. Absent an explosion in the human population served by a particular farm economy, direct and indirect governmental subsidies that encourage farm mechanization or biotechnological research cannot simultaneously reduce the total average cost of agricultural production *and* improve the relative economic position of farmers within that society. In other words, *progress and producer primacy cannot coexist.*

Instinctively aware that "progress"—as the bourgeois masses in the rich, industrialized United States understand the term—spells doom for their constituents, American agrarians have begun to organize systematic opposition to agricultural technology, especially the more sophisticated forms of biotechnology. Although the American farm sector frequently conceals its political self-dealing within a misty shroud of environmental rhetoric that stresses the role of farmers as "stewards of the land,"[69] resistance to agricultural technology contrib-

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67. See U.S. Congress, Office of Technology Assessment, *A New Era for American Agriculture* 65 (1992) (defining biotechnology narrowly as "new technologies [such] as recombinant DNA techniques (also called genetic engineering), cell culture, and monoclonal antibody (hybridoma) methods" designed to "use 'living organisms . . . to make or modify products, to improve plants or animals, or to develop microorganisms for specific uses' ").

68. See Neil D. Hamilton, *Why Own the Farm If You Can Own the Farmer (and the Crop)?: Contract Production and Intellectual Protection of Grain Crops*, 73 Neb. L. Rev. 48, 52-55, 89-102 (1994) (detailing trends in grain production and crop production contracts); Neil D. Hamilton, *Who Owns Dinner: Evolving Legal Mechanisms for Ownership of Plant Genetic Resources*, 28 Tulsa L. J. 587, 631-46 (1993) (discussing issues related to the internationalization of intellectual property rights in plant genetic resources).

69. See, for example, Iowa Code Ann. § 159.2 (West 1990) (establishing objectives for the Iowa Department of Agriculture and Land Stewardship); *Hurd v. Commissioner*, 37 T.C.M. (CCH) ¶ 499 (1978); Steven C. Bahls, *Judicial Approaches to Resolving Dissension Among*

utes to a larger campaign against competitive forces that would otherwise expose incumbent farmers to the corrosive effects of industrial capitalism. In the agriculturally illiterate societies of the industrialized North and West,[70] political posturing of this sort obscures the incompatibility between agricultural fundamentalism and the economic system that has given American consumers one of the highest standards of living the world has ever known.

III. THE DECLINE OF AGRICULTURE AS AN AUTONOMOUS ENTERPRISE

From the Great Compromise of 1787,[71] which guaranteed each state two seats in the United States Senate regardless of population,[72] to the series of constitutional decisions in the early 1960s that barred the states from drawing legislative districts according to land mass rather than population,[73] a broadly shared agrarian creed drove agricultural policy in the United States. Although the sustainable agriculture movement has qualified (and perhaps undermined) one of the

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Owners of the Family Farm, 73 Neb. L. Rev. 14, 16 (1994) (stating that "[t]he family farmers' historic commitment to long term stewardship of the land is increasingly valued by today's more environmentally-conscious society"); Carol Ann Eiden, *The Courts' Role in Preserving the Family Farm During Bankruptcy Proceedings Involving FmHA Loans*, 11 L. & Ineq. 417, 423 (1993) (noting that industrial farms lack the personal link to the land that family farms have); N. William Hines, *The Land Ethic and American Agriculture*, 27 Loy. L.A. L. Rev. 841, 842-49 (1994) (contrasting the property rights of rural landowners with their communitarian responsibilities). Contrast *West Lynn Creamery, Inc. v. Healy*, 114 S. Ct. 2205, 2217 n.20 (1994) (rejecting the argument that protection of local dairy farmers preserves "unique open space" and provides other "environmental benefits"). See generally Hamilton, 72 Neb. L. Rev. at 225-40 (cited in note 65) (describing the origins of legal duties of "stewardship" attached to the ownership and use of farmland).

70. See generally National Research Council, *Understanding Agriculture: New Directions for Education* (1988) (documenting how little most Americans know about agriculture, its social and economic significance in the United States, and its links to human health and environmental quality).

71. See Max Farrand, ed., 1 *The Records of the Federal Convention of 1787* 193, 342-43, 461-62, 511 (Yale U., 1911) (quoting, among others, Roger Sherman and William Samuel Johnson).

72. See U.S. Const., Art. I, § 3, cl. 1 (stating that "[t]he Senate of the United States shall be composed of two Senators from each State"); id., Art. V (stating that "no State, without its Consent, shall be deprived of its equal Suffrage in the Senate"). This sort of geographic apportionment gives more sparsely populated states—that is, relatively rural states—a lopsided advantage in the Senate.

73. See *Baker v. Carr*, 369 U.S. 186, 226-37 (1961) (recognizing the justiciability of constitutional challenges to state apportionment laws); *Wesberry v. Sanders*, 376 U.S. 1, 17 (1964) (holding that apportionment of congressional seats by population is commanded by U.S. Const., Art. I, § 2, cl. 1); *Reynolds v. Sims*, 377 U.S. 533, 562-65 (1964) (requiring numerically balanced representation in state legislatures as a matter of equal protection). These "one person, one vote" decisions "struck agriculture like a thunderbolt." Fite, *American Farmers: The New Minority* at 150 (cited in note 39).

canons in the traditional creed—the idea that "[i]t is [unequivocally] good 'to make two blades of grass grow where only one grew before' "—the remaining canons neatly answer three broad and interrelated questions:

1. Who shall farm?
   "Anyone who wants to farm should be free to do so."
   "Farming should be a family enterprise."
2. On what economic terms should farming occur?
   "A farmer should be his own boss."
   "The land should be owned by the man who tills it."
3. What should be farming's cultural status within society?
   "Farmers are good citizens and a high percentage of our population should be on farms."
   "Farming is not only a business but a way of life."[74]

Neil D. Hamilton's more detailed statement of the "agricultural canon" adds several crucial planks to the economic platform:

> • Farmers are independent—they can't be fired and don't work for someone else.
> • Farmers own their own property or intend to some day, and thus have a long-term stewardship relation with the land, different than employees.
> • Farmers sell their goods on the free market and profit from their marketing skills and pricing opportunities.
> • Farmers may join many organizations but they retain control over production and marketing decisions, unlike union members.
> • Farmers are largely free from government regulation as to production and marketing decisions.
> • Farmer-owned cooperatives provide a means for farmers to collectively obtain inputs or access markets.[75]

Hamilton's elaborations of the agrarian creed warrant especially close attention. The theme underlying these six canons—the economic independence of the farmer—bears less similarity to economic reality than ever before. The bold assertion of "independence" bears scant relationship to today's agricultural markets. Increasingly, farmers "work for someone else" in the sense that they contract all their output to a single agribusiness buyer.[76] In the merciless world of con-

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74. The quoted answers to these questions come from Don Paarlberg, *American Farm Policy* 3 (John Wiley and Sons, Inc., 1964); Paarlberg, *Farm and Food Policy* at 7 (cited in note 26).

75. Hamilton, 14 N. Ill. L. Rev. (cited in note 11).

76. See generally id.; Hamilton, 73 Neb. L. Rev. at 56-57 (cited in note 68).

tract farming, the frequent howl over the termination or nonrenewal of a contract is merely the agrarian equivalent of a wage laborer's fear of firing.[77]

Agriculture's loss of independence is largely a product of America's coming of age, a growing pain in a nation that "was born in the country and has moved to the city."[78] During the presidency of Thomas Jefferson, one could plausibly describe agriculture "as more or less a self-contained industry," for "the typical farm family produced its own food, fuel, shelter, draft animals, feed, tools, and implements and even most of its clothing."[79] By the 1950s, pioneering agricultural analysts had devised a new and still-controversial term—*agribusiness*—to describe the capital-intensive, industrialized, and profit-driven enterprise of organizing "the sum total of *all* operations involved in the manufacture and distribution of farm supplies; production operations on the farm; and the storage, processing, and distribution of farm commodities and items made from them."[80]

Let us borrow another social buzzword from the 1950s to describe the dramatic transformation of agriculture into agribusiness: "Integration." Even as agricultural lawyers convene to discuss (perchance to defeat) "changing structures and expectations in agriculture,"[81] some agricultural economists herald "the evolution of an industrialized, globalized, consumer-driven food system."[82] A recent blue-ribbon survey identifies vertical integration and coordination as the most significant economic issue that will face the American food

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77. See, for example, *Smith v. Central Soya of Athens, Inc.*, 604 F. Supp. 518, 528 (E.D. N.C. 1985). Compare Minn. Stat. Ann. § 17.92 (West Supp. 1995) (regulating the ability of contract purchasers of agricultural commodities to terminate or cancel production contracts requiring the producer to make a long-term capital investment exceeding $100,000).

78. Hofstadter, *The Age of Reform* at 23 (cited in note 43).

79. John H. Davis and Ray A. Goldberg, *A Concept of Agribusiness* 4 (Harvard U., 1957). See also id. at 1 (stating that "virtually all operations relating to growing, processing, storing, and merchandising food and fiber were a function of the farm"). Compare *Farmers Reservoir & Irrigation Co. v. McComb*, 337 U.S. 755, 761 (1949) (noting that the definition of agriculture shifts according to changes in the economic factors that affect the degree of vertical integration and coordination in food and fiber production markets).

80. Davis and Goldberg, *A Concept of Agribusiness* at 2.

81. This was the title of an agricultural law symposium at the Northern Illinois University College of Law, March 10, 1994.

82. This was the title of a paper delivered by Benjamin Senauer and Jean Kinsey at the Fourth Conference on Food, Agriculture, and the Environment jointly sponsored by the Università degli Studi di Padova and the Center for International Food and Agricultural Policy at the University of Minnesota, September 6, 1994. See generally Ben Senauer, Elaine Asp, and Jean Kinsey, *Food Trends and the Changing Consumer* 1-12 (Eagan, 1991) (describing recent consumer trends and their impact upon the United States food system).

and agriculture system in the next few decades.[83] Both practically and symbolically, integration into an economic system dominated by shareholder-owned agribusinesses will spell the end of agricultural independence.[84]

Industrial conquest of production agriculture cannot come soon enough. The entire body of agrarian rhetoric touting the unproven virtues of the farming class exhibits nearly no sense of irony about the profoundly antidemocratic and antimeritocratic elements of the American agricultural tradition. American agricultural law, fully and properly defined, began with the 1787 Constitution's acquiescence in the peculiar agrarian institution called slavery.[85] Today, virtually every law regulating the terms by which farmland may be owned and restricting the types of business entities that may engage in farming may be distilled into the spirit of family farm preservation. What the Midwestern states' corporate farming statutes merely imply,[86] the related battery of statutes banning alien ownership of farmland[87] blatantly articulates: No newcomers, domestic or foreign, need apply. New capital, new farmers, new ideas—nothing alien to the farming tradition as incumbent landowners know it need apply for entry into American agricultural markets. Early Supreme Court decisions upholding state-law restrictions on alien involvement in farming all

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83. See Kristen Allen, *Challenges, Realities and Perceptions: Changing Paradigms for the U.S. Food and Agriculture System* 3 (1993) (unpublished manuscript issued by the Rural Development Institute at the University of Wisconsin-River Falls).

84. For a particularly insightful perspective on the paradigmatic conflict between economic "dependence" and "independence" in agriculture, see Beus and Dunlap, 55 Rural Sociology at 602-05 (cited in note 61).

85. See U.S. Const., Art. IV, § 2, cl. 3 (stating that "[n]o Person held to Service or Labour in one State, under the Laws thereof, escaping into another, shall . . . be discharged from Service or Labour, but shall be delivered up on Claim of the Party to whom such Service or Labour may be due"); U.S. Const., Art. I, § 9, cl. 1 (stating that "[t]he Migration or Importation of such Persons as any of the States now existing shall think proper to admit, shall not be prohibited by the Congress prior to the Year one thousand eight hundred and eight"). Compare U.S. Const., Art. I, § 2, cl. 3 (stating that "[r]epresentatives . . . shall be apportioned among the several States . . . according to their respective Numbers, which shall be determined by adding to the whole Number of free Persons . . . three fifths of all other Persons"). See generally Jim Chen, *Of Agriculture's First Disobedience and Its Fruit*, 48 Vand. L. Rev. ___ (forthcoming, Oct. 1995).

86. See generally Morrison, 7 U. Toledo L. Rev. at 992-97 (cited in note 5) (describing corporate farming statutes as motivated by interrelated desires to curb vertical integration of production agriculture, to discourage external ownership of farm resources, and to stabilize land prices by eliminating potential buyers of farmland).

87. See, for example, Minn. Stat. Ann. § 500.221, partially repealed by 1994 Minn. Sess. L., H.F. 3091, ch. 465, Art. 3, § 36. See generally Fred L. Morrison, *Limitations on Alien Investment in American Real Estate*, 60 Minn. L. Rev. 621 (1976).

involved Japanese immigrants on the West Coast.[88] In every case, the Japanese immigrant sought merely to farm as a tenant, not to acquire strategically valuable farmland. These statutes and decisions reflected the racial consciousness of the day, which was embodied in race-based limitations on eligibility for America citizenship[89] and which would eventually subject the *Isei* and *Nisei* to a sort of legal mistreatment that transcended the initial denial of freedom to farm—involuntary wartime internment.[90] Against this backdrop, agrarian arrogance reaches its apogee when farm advocates speak of their preferred lifestyles as though they were inalienable entitlements, undeniably worthy of positive legal protection and transcendently shielded by the moral imperatives of natural law.[91]

As befits an era in legal practice and scholarship distinguished by the decline of law as an autonomous discipline,[92] the close of the twentieth century marks the decline of agriculture as an autonomous economic enterprise and as a unique, independent way of life. "The city-dweller or poet who regards the cow as a symbol of bucolic serenity is [hopelessly] naive."[93] The scholar who attempts to understand agriculture without reference to other fields of human endeavor and other sources of human values is likewise lost. Agriculture today is "so vast that fully to comprehend it would require an almost universal knowledge ranging from geology, biology, chemistry and medicine to the niceties of the legislative, judicial and administrative processes of government."[94] In a world where numerous mechanical and biological

88. See *Frick v. Webb*, 263 U.S. 326, 332 (1923); *Webb v. O'Brien*, 263 U.S. 313, 320 (1923); *Porterfield v. Webb*, 263 U.S. 225, 231 (1923); *Terrace v. Thompson*, 263 U.S. 197, 211 (1923).

89. See *United States v. Thind*, 261 U.S. 204, 214-15 (1923) (holding that persons of Asian Indian descent could not attain citizenship under an immigration statute limiting naturalization to "free white persons" and "persons of African nativity or descent"); *Ozawa v. United States*, 260 U.S. 178, 198 (1922) (holding that persons of Japanese descent were similarly barred).

90. See *Korematsu v. United States*, 323 U.S. 214, 219 (1944) (upholding the exclusion of American citizens of Japanese descent from a military area during World War II); *Hirabayashi v. United States*, 320 U.S. 81, 101 (1943) (upholding a curfew imposed on Americans of Japanese descent within a military area during World War II). Compare *Ex parte Endo*, 323 U.S. 283, 202-04 (1944) (holding that neither the Act of March 21, 1942, nor Executive Orders Nos. 9066 and 9102 justified the detention of loyal Americans of Japanese descent during World War II). See generally Peter Irons, ed., *Justice Delayed: The Record of the Japanese American Internment Cases* (Wesleyan U., 1989); Peter Irons, *Justice at War: The Story of the Japanese American Internment Cases* (U. of California, 1983).

91. See, for example, Carol Hodne, *We Whose Future Has Been Stolen*, in Gary Comstock, ed., *Is There a Moral Obligation to Save the Family Farm?* 54, 54 (Iowa State U., 1987) (asserting that a farm daughter's desire "to carry on the tradition of family farming" on her family's land had been "stolen" by an industrialized society).

92. See generally Richard A. Posner, *The Decline of Law as an Autonomous Discipline: 1962-1987*, 100 Harv. L. Rev. 761 (1987).

93. *Queensboro Farms Prods., Inc. v. Wickard*, 137 F.2d 969, 974 (2d Cir. 1943).

94. Id. at 975.

constraints bar the complete fulfillment of all human yearnings, we all resort to the marketplace as the arena where we resolve conflicts between discrete individuals' desires and values.[95] For even when the state distrusts marketplace morality and lends the force of law to measures contrary to marketplace mechanics, every right granted by law, every duty imposed by the state, is subject to renegotiation in the larger economy's informal parliament of merchants, middlemen, and consumers. This is the sense in which every "lawyer who has not studied economics" deserves to be branded "a public enemy."[96]

In the American marketplace, consumer dollars have ended the longstanding battle between industry and agriculture. In the supermarkets and the glimmering towers of America's cities, industry has won a complete victory. (Never mind the reluctant hearts of American legislators and the smoky dungeons of Washington's congressional offices.) In no uncertain terms, the forcible integration of agriculture into America's industrialized economy has made the United States rich by the West's historical standards and the larger world's contemporary standards. Ironically, agricultural industrialization on terms dictated by the tastes and the values of bourgeois consumers has delivered the American working class from Marx's realm of necessity and into the realm of freedom.

All of this—not only the descriptive reality but also the prescriptive consensus—has yet to be absorbed and accepted by American farmers and their political allies. The economic and cultural transformation made possible by the capitalist West's repudiation of applied Marxism has scarcely loosened the American Ideology's grip on agricultural law and policy in the United States. Despite the declining farm population, policies favoring freehold farmers at the expense of virtually every other social class remain atop the agrarian agenda in American law. True to the fundamental insight of modern public choice theory, agricultural legislation routinely delivers benefits to concentrated, well-organized groups within the farm sector at the expense of food and fiber consumers, who are too broadly dispersed to offer effective political resistance.[97] The continuing decline

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95. For an explanation of how economics uses persuasive rhetoric to mold debates over limited resources and to resolve the resulting conflicts, see Donald N. McCloskey, *The Rhetoric of Economics* 54-86 (U. of Wis., 1985).

96. Louis Brandeis, *The Living Law*, 10 U. Ill. L. Rev. 461, 470 (1916).

97. See Michael T. Hayes, *Lobbyists and Legislators: A Theory of Political Markets* 101-02 (Rutgers U., 1981) (describing how public opinion was aroused to defeat the Sugar Bill only after it had remained in place for decades). For particularly powerful studies of agricultural self-

of rural and agricultural populations may well increase the tenacity with which the priests of producer primacy will resist the final absorption of farmers, the prototypical "discrete and insular minority" in American law,[98] into the vast sea that is consumerism as an economic objective, a political ideology, and a veritable "way of life."

IV. AGRICULTURAL DEVELOPMENT AS AGRARIAN SELF-DESTRUCTION

Those who blame the loss of agricultural independence for hard times in rural America are nursing a self-inflicted wound. The farm sector has become the victim of its own political success. *Modernization* of the agricultural enterprise, especially when catalyzed by disbursements from the public fisc, necessarily accelerates the trend toward *integration* of agricultural production into the industrial economy. To test this proposition, we need look no further than the American program of agricultural development, "the best, the most logical and the most successful" one of its kind "anywhere in the world."[99]

A. The Dawn of the Developmental Agenda

Since the beginning, American agriculture has received the fattest fruits of the legislative harvest. A shockingly accurate historical map of American agricultural law can be drawn with just two lines: the Mason-Dixon line and the hundredth degree of longitude west of Greenwich. Before the United States had fully settled its arid West, the slaveholding South and the free North battled over two

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dealing, see Geoffrey P. Miller, *Public Choice at the Dawn of the Special Interest State: The Story of Butter and Margarine*, 77 Cal. L. Rev. 83, 108-29 (1989); Geoffrey P. Miller, *The True Story of Carolene Products*, 1987 Sup. Ct. Rev. 397, 404-15; Katherine E. Monahan, *U.S. Sugar Policy: Domestic and International Repercussions of Sour Law*, 15 Hastings Int'l & Comp. L. Rev. 325, 359-60 (1992).

98. See *United States v. Carolene Prods. Co.*, 304 U.S. 144, 153 n.4 (1938). See generally Miller, 1987 Sup. Ct. Rev. at 404-06 (documenting the lobbying efforts of dairy farming interests during the adoption of the Filled Milk Act, which *Carolene Products* upheld). Nowadays American legal scholars—at least outside agricultural circles—routinely recognize that economically discrete and insular minorities such as the dairy farmers in *Carolene Products* are precisely the groups most capable of defending their interests in political arenas and therefore the groups least deserving of special legal treatment. See, for example, Bruce Ackerman, *Beyond* Carolene Products, 98 Harv. L. Rev. 713, 745 (1985); Daniel A. Farber and Philip P. Frickey, *Law and Public Choice: A Critical Introduction* 12-37 (U. of Chicago, 1991).

99. Earl O. Heady, *The Agriculture of the U.S.*, Scientific American 107, 107 (Sept., 1976).

visions of agricultural development.[100] In New England and the Midwest, freehold farmers and their families covered newly cleared forest lands with a patchwork of small, diversified farms growing food crops for subsistence and local consumption. Meanwhile, slave plantations specializing in cotton and tobacco dominated the South. The North sought agricultural development through the dispersal of public lands into deconcentrated private ownership; the South treasured the labor subsidy that slavery represented. The quintessentially American Homestead Act,[101] frequently discussed as if it were the first act in the legal history of American agriculture,[102] stood no chance of passage until secession stripped Congress of the Southern delegations that had blocked homesteading proposals.[103]

To this day, North and South retain distinct preferences in agricultural policy. Whereas the Midwestern heirs of the Northern agrarian tradition emphasize landownership, Southern agriculture continues to rely on cheap labor. A culturally and historically informed observer would not be surprised to discover that most of the states that regulate corporate farming lie in the upper Mississippi valley,[104] whereas the South has experienced the greatest expansion in contract farming.[105] A disproportionately large number of disputes over agricultural production contracts seem to arise in the South.[106] For their part, the states west of the hundredth meridian won massive water and grazing subsidies[107] when the Great American Desert literally parched the original homesteading agenda.[108]

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100. See generally Paul S. Taylor, *Public Policy and the Shaping of Rural Society*, 20 S.D. L. Rev. 475, 476-80 (1975) (documenting the social progression leading to the clash between Northern and Southern agriculture).

101. Act of May 20, 1862, ch. 75, 12 Stat. 392.

102. See, for example, M. C. Hallberg, *Policy for American Agriculture: Choices and Consequences* 304 (Iowa State U., 1992).

103. For a history of how Southern legislators opposed free land policies in the antebellum Congress, see Benjamin Horace Hibbard, *A History of the Public Land Policies* 366-83 (Macmillan, 1924).

104. See statutes cited in note 5.

105. See Clay Fulcher, *Vertical Integration in the Poultry Industry: The Contractual Relationship*, Agric. L. Update 4, 6 (Jan. 1992).

106. See, for example, *National Broiler Marketing Ass'n v. United States*, 436 U.S. 816, 818 (1978) (arising in Georgia); *Braswell v. ConAgra, Inc.*, 936 F.2d 1169, 1172 (11th Cir. 1991) (arising in Alabama); *Baldree v. Cargill*, Inc., 758 F. Supp. 704, 704 (M.D. Fla. 1990); *Smith v. Central Soya of Athens, Inc.*, 604 F. Supp. 518, 518 (E.D. N.C. 1985).

107. See, for example, Reclamation Act of 1902, 43 U.S.C. §§ 371-616yyyy (1988); Taylor Grazing Act of 1934, 43 U.S.C. §§ 315-315r (1988). See generally John S. Harbison, *Hohfeld and Herefords: The Concept of Property and the Law of the Range*, 22 N.M. L. Rev. 459 (1992).

108. See, for example, *California v. United States*, 438 U.S. 645, 648-63 (1978); Taylor, 20 S.D. L. Rev. at 482 (cited in note 100).

The slavery issue aside, the United States first embarked on a deliberate approach to agricultural development in 1862. The Homestead Act provided land through 160-acre grants to individual settlers, while the first Morrill Land-Grant College Act promised intellectual capital by endowing the nationwide network of public colleges charged with the primary mission of teaching agricultural and mechanical arts.[109] The Pacific Railroad Act gave farmers cheap transportation by authorizing and subsidizing a transcontinental railroad connecting the agricultural capitals of Omaha and Sacramento.[110] The final enactment in the legislative class of 1862 established the Department of Agriculture and commissioned it "to acquire and to diffuse among the people of the United States useful information on subjects connected with agriculture in the most general and comprehensive sense of that word, and to procure, propagate, and distribute among the people new and valuable seeds and plants."[111]

Together, these statutes gave the farm sector precisely what it bargained for: broadened landownership, cheap access to developmental capital, and a political foothold within the federal government to protect these new entitlements.[112] In a country blessed with an "abundance of land" but temporarily saddled with "a relative scarcity of labor," the agricultural policymakers could afford to give away land and to focus on "achieving gains in labor productivity."[113] The legislative class of 1862 coincided with the invention of transportation, communication, and agricultural technologies that had already begun to facilitate the rapid growth of the American industrial empire.[114] In stark contrast to the bloody resolution of 75 years of debates spawned

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109. Act of July 2, 1862, ch. 130, 12 Stat. 503, codified as amended at 7 U.S.C. §§ 301-308 (1988).

110. Act of July 1, 1862, ch. 120, 12 Stat. 489. See generally *Leo Sheep Co. v. United States*, 440 U.S. 668, 670-77 (1979) (describing the history of nineteenth-century railroad development policies).

111. Act of May 15, 1862, ch. 72, § 1, 12 Stat. 387, codified as amended at 7 U.S.C. § 2201 (1988). Later amendments expanded the department's mission to include rural development, see Pub. L. No. 92-419, § 603(a), 86 Stat. 675 (1972), and aquaculture and human nutrition, see Pub. L. No. 95-113, § 1502(a), 91 Stat. 1021 (1977). For an authoritative history of the Department of Agriculture, see generally Gladys Baker, et al., *Century of Service: The First 100 Years of the United States Department of Agriculture* (U.S.D.A., 1968).

112. Paarlberg, *Farm and Food Policy* at 14-15 (cited in note 26).

113. Vernon W. Ruttan, *Agricultural Policy in an Affluent Society*, 48 J. Farm Econ. 1100, 1100 (1966).

114. See Mansel G. Blackford and K. Austin Kerr, *Business Enterprise in American History* 88-95 (Houghton Mifflin, 2d ed. 1990); Deborah A. Ballam, *The Evolution of the Government-Business Relationship in the United States: Colonial Times to Present*, 31 Am. Bus. L. J. 553, 581-82 (1994).

by the unfinished business of the Constitution's framers, the 1862 statutes laid the United States' framework for the next seven decades of agricultural policymaking. The developmental agenda outlined in 1862 staked out a veritable Field of Dreams within the vast terrain of American public law: if you farm it, they will come.[115] Between 1862 and 1934, when the passage of the Taylor Grazing Act[116] closed the Western frontier to homesteaders and free-roaming herds of beef cattle,[117] developmental subsidies formed the bedrock-like foundation of agricultural policy in the United States.

But the financial crisis of the early 1930s exposed how the developmental agenda had crumbled into a Field of Nightmares. Homesteading failed to ensure actual ownership of land by settlers on the opened public domain, partly because of the environmental constraints of the far West but also because the end of "[p]ublic controls" upon passage of title to the original homesteader "open[ed] the door to subsequent purchase of large blocks by speculators."[118] For even as one class of beneficiaries from 1862's developmental flurry dissipated its legislative bequest, another had busily built an economic behemoth from its initial boost. Spurred by the Pacific Railway Act of 1862 and successor statutes,[119] the railroad octopus soon began strangling its captive shippers.[120] The railroads managed to acquire much of the formerly public land that the Homestead Act had ushered into private ownership. Within a generation, the farm sector came to regard the railroad not as savior, but as a satanic adversary; the famed "Granger cases" demonstrated vividly how the farmer had come to despise the octopus that had seemed so benign in 1862.[121]

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115. Watch Kevin Costner, in *Field of Dreams* (Universal, 1989).

116. Act of June 28, 1934, ch. 865, 48 Stat. 1269, codified as amended at 43 U.S.C. §§ 315-315r (1988).

117. See generally George C. Coggins and Charles F. Wilkinson, *Federal Public Lands and Resources Law* 535-38 (Foundation, 1980).

118. Taylor, 20 S.D. L. Rev. at 483 (cited in note 100).

119. See Act of July 2, 1864, ch. 216, 13 Stat. 356; Act of July 3, 1866, ch. 159, 14 Stat. 79; Act of March 3, 1869, ch. 127, 15 Stat. 324.

120. See generally Frank Norris, *The Octopus: A Story of California* (Riverside, 1902). For a comprehensive economic and historical study of the federal government's policy of granting public land for railroad development, see generally Lloyd J. Mercer, *Railroads and Land Grant Policy: A Study in Government Intervention* (Academic, 1982).

121. See *Chicago, B. & Q. R.R. Co. v. Iowa*, 94 U.S. 155, 163-64 (1876) (upholding state-law regulation of maximum fares and freight); *Peik v. Chicago & N.W. Ry. Co.*, 94 U.S. 164, 176-78 (1877) (same); *Chicago, M. & St. P. RR. Co. v. Ackley*, 94 U.S. 179, 179 (1877) (same); *Winona & St. P. RR. Co. v. Blake*, 94 U.S. 180, 180 (1877) (same); *Stone v. Wisconsin*, 94 U.S. 181, 183 (1877) (same).

Neither homesteading nor reclamation nor subsidization of railroad construction kept wealth in the hands of small, freehold farmers. Unfettered alienability of homesteads scattered the landed wealth of the United States government into many, mostly non-agrarian, hands.[122] Restraints on the alienation of subsidized reclamation water[123] spawned a legacy of waste and fiscal disaster, which the federal government is only beginning to reverse by threatening to charge market prices for water[124] and by authorizing the first step toward an open market for reclamation water.[125] In a battle that forever scarred the transportation, energy, and communications industries, the railroads eventually submitted to rate regulation as an alternative to nationalization.[126]

The legacy of homesteading, reclamation, and railroad subsidization thus teaches three significant lessons about the stability of direct wealth transfers to agriculture. First, as a rule, attempts to limit the size of economic entities that are entitled to receive public benefits will fail. In a more or less frictionless market for valuable legal entitlements, wealth will flow into the hands of those who value those entitlements most (that is, actors who can make the most efficient use of scarce capital) without regard to the identity of the entitlement's original recipient.[127] Firm size, after all, is a function of the relative efficiency of vertical integration or coordination vis-à-vis the price of inputs on the open market;[128] firm structure, a function of

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122. The collapse of the federal government's brief experiment in allotting Indian lands in fee to individuals provides a fascinating parallel. See *County of Yakima v. Confederated Tribes & Bands of the Yakima Indian Nation*, 112 S. Ct. 683, 685-87 (1992) (describing the development of the policy of allotting Indian lands to individual tribe members).

123. See, for example, 43 U.S.C. § 372 (providing that "the right to the use of water acquired under" the Reclamation Act "shall be appurtenant to the land irrigated").

124. See Reclamation Reform Act of 1982, 43 U.S.C. §§ 373(a), 390aa-390zz-1, 422e, 425b, 485h, and 502 (1988); *Peterson v. United States Dep't of the Interior*, 899 F.2d 799, 806-14 (9th Cir. 1990) (interpreting the "hammer clause," 43 U.S.C. § 390cc(b) (1988), which eliminates the federal subsidy if local water districts elect to deliver water to land holdings exceeding 960 acres).

125. See Central Valley Project Improvement Act of 1992, Pub. L. No. 102-575, § 3405(a), 106 Stat. 4600, 4706.

126. This struggle is far too vast to document in a piece this short and so seemingly distant from the broader problems of economic regulation in the United States. It suffices to note the leading role of William Jennings Bryan in the landmark case of *Smyth v. Ames*, 169 U.S. 466, 547 (1898), in which the prairie populist successfully defended the power of states to limit railroads to a "fair return upon the value" of their investment. See Neil N. Bernstein, *Utility Rate Regulation: The Little Locomotive That Couldn't*, 1970 Wash. U. L.Q. 223, 240.

127. See generally R.H. Coase, *The Problem of Social Cost*, 3 J. L. & Econ. 1 (1960).

128. See generally R.H. Coase, *The Nature of the Firm*, 4 Economica 386 (1937), reprinted in Oliver E. Williamson and Sidney G. Winter, eds., *The Nature of the Firm: Origins, Evolution, and Development* 18 (Oxford U., 1991); George J. Stigler, *The Division of Labor Is Limited by the Intent of the Market*, 59 J. Pol. Econ. 1 (1951).

risk, ruin, and the cost of contingent capital.[129] Within the farm sector, the efficient actors are often (although not necessarily) the largest. The desire to spread risk and pool capital routinely motivates farmers to deviate from traditional forms of family ownership. Indeed, cooperative ownership of input and processing firms by farmers is precisely what the agricultural exemptions to the antitrust laws contemplate and encourage. Even greater contortions in the organization of agricultural firms arise from farmers' efforts to evade legal limits on the amount of income support payments that any one "person" may receive.[130]

Second, as the spectacular waste of reclamation water has demonstrated,[131] mere landownership does not automatically give rise to "stewardship." "[T]raditional claims of farmers' commitment to stewardship" do not withstand closer scrutiny;[132] agricultural land use more accurately reflects the deadly sins of greed and sloth than the stewardship ethic inferred from the divine command to dress and to keep the Garden of Eden.[133] The Iowa courts' tantalizing but inconclusive quest to find an implied covenant of "good husbandry" in farm

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129. See Franco Modigliani and Merton H. Miller, *The Cost of Capital, Corporation Finance and the Theory of Investment*, 48 Am. Econ. Rev. 261, 296 (1958) (establishing "a theory of the value of firms and shares in an uncertain world"); Nevins D. Baxter, *Leverage, Risk of Ruin and the Cost of Capital*, 22 J. Finance 395, 395 (1967) (explaining "how excessive leverage can . . . raise the cost of capital to the firm").

130. See, for example, Agriculture Adjustment Act of 1938, 7 U.S.C. §§ 1308 to 1308-3 (1988); Erodible Land and Wetland Conservation and Resource Program, 16 U.S.C. § 3834(f) (1988); 7 C.F.R. §§ 795, 1497-1498 (1994); *Women Involved in Farm Economics v. USDA*, 876 F.2d 994, 1007 (D.C. Cir. 1989) (upholding U.S.D.A. regulation of joint tenancy by husband and wife); *Golightly v. Yeutter*, 780 F. Supp. 672, 678-79 (D. Ariz. 1991) (upholding U.S.D.A. regulation of third-party financing arrangements); *Justice v. Lyng*, 716 F. Supp. 1570, 1576-77 (D. Ariz. 1989) (holding U.S.D.A.'s application of "custom farming," as defined in 7 C.F.R. § 795.16, arbitrary and capricious); *Stegall v. United States*, 19 Cl. Ct. 765 (1990) (discussing the regulation of partnerships). See generally Christopher R. Kelley and Alan R. Malasky, *Federal Farm Program Payment-Limitations Law: A Lawyer's Guide*, 17 Wm. Mitchell L. Rev. 199 (1991). Although a full discussion of agricultural payment limitations exceeds the scope of this article, the notoriously abusive form of farm organization known as the "Mississippi Christmas Tree" deserves mention. See Carole Frank Nuckton, *Farm Program Conflicts: The $50,000 Case*, Choices 34 (4th Q. 1989); Winston I. Smart, *The Mississippi Christmas Tree*, Choices 28 (2d Q. 1990).

131. See, for example, *Peterson v. United States Dep't of Interior*, 899 F.2d 799, 802-07 (9th Cir. 1990) (documenting the wasteful practices that precipitated the passage of the Reclamation Reform Act of 1982, 43 U.S.C. §§ 373(a), 390aa-390zz-1, 422e, 425b, 485h, and 502 (1988)); Hamilton Candee, *The Broken Promise of Reclamation Reform*, 40 Hastings L. J. 657, 660-68 (1989) (same).

132. Hamilton, 72 Neb. L. Rev. at 228 (cited in note 65).

133. See Gen. 2:15 (New Revised Standard Version). See generally Chen, 48 Vand. L. Rev. (forthcoming, Oct. 1995) (cited in note 85).

leases[134] illustrates the inefficacy of the common law; in almost any nonagricultural context, courts would readily punish substantial impairment of future interests as waste. Thus, the federal government often finds itself bribing farmers into "stewardship" either by paying them to retire marginally productive lands[135] or by conditioning their prized income support payments on compliance with conservation standards.[136] Simply putting land into farmers' hands is no guarantee of environmental integrity.

Finally, like all other participants in a capitalistic society, farmers will substitute mechanical leverage for labor and biological technology for land at every opportunity. What is true of price-regulated public utilities is likewise true of price-subsidized farmers: Profit-maximizing firms will overinvest and overproduce whenever the law elevates the rate of return relative to the cost of capital.[137] It makes no difference whether the government elevates the rate of return (as it does for public utilities) or reduces the cost of capital (as it does for farmers); any legally induced margin will do. The sustainable agriculture movement's ideologically motivated refusal to ac-

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134. See, for example, *Brown Land Co. v. Lehman*, 134 Iowa 712, 112 N.W. 185, 188 (1907); *Quade v. Heiderscheit*, 391 N.W.2d 261, 264-65 (Iowa Ct. App. 1986). See also Hamilton, 72 Neb. L. Rev. at 229-31 (cited in note 65) (discussing the covenant of good husbandry in farm leases as a duty inferred from the notion of stewardship); Neil D. Hamilton, *Adjusting Farm Tenancy Practices to Support Sustainable Agriculture*, 12 J. Agric. Tax'n & L. 226, 234-39 (1990) (discussing the emergence of the sustainable agriculture movement and how landlords may use leases to promote sustainable methods of farming on their lands).

135. See, for example, Conservation Reserve Program, 16 U.S.C. §§ 3831-3836 (1988) (offering ten to fifteen year contracts under which farmers retire erosive cropland from production in exchange for annual rental payments); 16 U.S.C. § 3837-3837f (Supp. 1993) (establishing a similar Wetland Reserve Program). See generally Linda A. Malone, *A Historical Essay on the Conservation Provisions of the 1985 Farm Bill: Sodbusting, Swampbusting, and the Conservation Reserve*, 34 U. Kan. L. Rev. 577 (1986) (arguing that purely voluntary soil conservation programs have been ineffective in this country); Linda A. Malone, *Conservation at the Crossroads: Reauthorization of the 1985 Farm Bill Conservation Programs*, 8 Va. Envir. L. Rev. 215 (1989) (discussing the reforms which would be most effective and efficient in preserving wetlands and highly erodible land).

136. See, for example, Erodible Land and Wetland Conservation and Reserve Program, 16 U.S.C. §§ 3821-3824 (1988); *National Wildlife Federation v. ASCS*, 955 F.2d 1199, 1205-06 (8th Cir. 1992) (recognizing a good faith exception in certain cases of failure to comply with farm program conservation requirements). For a skeptical view of the conservation programs' efficacy, see Neil D. Hamilton, *Legal Issues in Enforcing Federal Soil Conservation Programs: An Introduction and Preliminary Review*, 23 U.C. Davis L. Rev. 637, 641-44 (1990).

137. Compare Harvey Averch and Leland L. Johnson, *Behavior of the Firm Under Regulatory Constraint*, 52 Am. Econ. Rev. 1052, 1053 (1962) ("if the rate of return allowed by the regulatory agency is greater than the cost of capital but is less than the rate of return that would be enjoyed by the firm were it free to maximize profit without regulatory constraint, then the firm will substitute capital for the other factor of production and operate at an output where cost is not minimized"); Harold H. Wein, *Fair Rate of Return and Incentives—Some General Considerations*, in Harry M. Trebing, ed., *Performance Under Regulation* 39 (Michigan State U., 1968).

knowledge the empirically verifiable substitutability of agricultural inputs severely undermines that school's claim to intellectual coherence.[138]

None of these legal developments, however, matched the land grant college system's contribution to the erosion of agriculture's economic and social significance within the United States.[139] The land grant system's "overpowering emphasis on agricultural research and education" and commitment to "the introduction of new technology" has "carried the seeds of destruction of the homogeneous farm political economy."[140] Unlike the homesteading, reclamation, and grazing initiatives (which were ultimately stymied by environmental limits and the physical exhaustion of lands within the public domain) and railroad subsidization (which agricultural fundamentalists now disparage as a wealth transfer to a resource-consumptive, nonfarm industry), agricultural education and research transcended most of the geographic and economic constraints on the other developmental programs. By "mak[ing] education available to the [children] of the farmer" and the wage laborer, the land grant system advanced the uniquely American mission of elevating the farmer from the status of "a lowly peasant" to that of "an independent business man [or woman] . . . a [person] of dignity and worth."[141] Perhaps most significantly, because it primarily serves the young,[142] the education and research agenda has often served as the most immediate agent of change in American agriculture.

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138. See Vernon W. Ruttan, *Constraints on the Design of Sustainable Systems of Agricultural Production*, 10 Ecol. Econ. 209, 214 (1994) (criticizing the way in which sustainability advocates have categorically refused to address "substitutability," which is "inherently an empirical issue, on theoretical or philosophical grounds").

139. See generally Michael M. Crow, *The University as a Catalyst for Scientific and Industrial Development*, in S. R. Johnson and S. A. Martin, eds., *Industrial Policy for Agriculture in the Global Economy* 109 (Iowa State U., 1993).

140. Lauren Soth, *The End of Agrarianism: Fission of the Political Economy of Agriculture*, 52 Am. J. Agric. Econ. 663, 665 (1970).

141. Id. at 664.

142. Compare Thomas S. Kuhn, *The Structure of Scientific Revolutions* 90 (U. of Chicago, 2d ed. 1970) (observing that those who revolutionize a scientific discipline are "[a]lmost always . . . either very young or very new to the field whose paradigm they change").

B. Teach Your Children Well[143]

The land grant college system is arguably the most enduring legacy of the 1862 renascence in American agricultural law. Between the Civil War and the Great Depression, Congress added several layers to this educational-industrial complex. The Morrill Land-Grant Acts of 1862[144] and 1890,[145] the Hatch Act of 1887,[146] the Adams Act of 1906,[147] the Smith-Lever Act of 1914,[148] the Purnell Act of 1925,[149] and the Bankhead-Jones Act of 1935[150] gradually expanded the original handful of agricultural colleges into a full-blown network of land grant universities, experiment stations, and cooperative extension offices.[151] This "land grant complex" has at once awed and angered the farming community. For an annual outlay of less than $1 billion, the federal government buys a dazzling array of educational, research, and extension programs.[152] Although professors are among

143. Crosby, Stills, Nash, and Young, *Teach Your Children Well*, on *Déjà-Vu* (Atlantic Records, 1970). Compare Suzanna Sherry, *Responsible Republicanism: Educating for Citizenship*, 62 U. Chi. L. Rev. 131 (1995) (describing an ambitious program of universal, communitarian education as essential to the nurturing of citizenship).

144. 7 U.S.C. §§ 301-329 (1988).

145. Act of Aug. 30, 1890, ch. 841, 26 Stat. 417.

146. 7 U.S.C. §§ 361a-361i (1988).

147. Act of Mar. 16, 1906, ch. 951, 34 Stat. 63.

148. 7 U.S.C. §§ 341-349 (1988).

149. Act of Feb. 24, 1925, ch. 308, 43 Stat. 970.

150. 7 U.S.C. §§ 427, 427i (1988).

151. See also Smith-Hughes Vocational Education Act of 1917, 20 U.S.C. §§ 11-28 (1988) (providing federal support for agriculturally oriented vocational education in high schools). Compare Soth, 52 Am. J. Agric. Econ. at 665 (cited in note 140) (lamenting the apparent futility of continued funding for "4-H Club activities, . . . obsolete livestock judging and showing," and "vocational agricultural instruction . . . in rural high schools, most of whose graduates inevitably leave agriculture").

152. In 1993, the federal government spent $447,785,000 on agricultural education and cooperative state research and $442,592,000 on agricultural extension, or a total of $890,377,000. See Budget of the United States: Appendix—Fiscal Year 1995, 103d. Cong., 2d Sess., 123, 125 (1994). For a description of some of these programs, see Report on National Agricultural Research, Extension, and Teaching Policy, H.R. Rep. No. 569, pt. I, 101st Cong., 2d Sess. 386-95 (1990) (accompanying the Food, Agriculture, Conservation, and Trade Act of 1990, Pub. L. No. 101-624, §§ 1231-1271, 104 Stat. 3359, 3543-58 (Nov. 28, 1990)).

By contrast, the Commodity Credit Corporation spent nearly $13 billion on direct income support, price support, and supply control programs in 1993. Budget of the United States: Appendix-Fiscal Year 1995 at 149 (spending $12,787,712,000). Fiscal magnitude, of course, is not of itself an accurate measure of overall economic impact. Certain price and income support programs grossly distort the economy with little or no direct fiscal entanglement. For example, the federal government's "no-net-cost" sugar program, 7 U.S.C. § 1446g, directly transfers between $1 and $2 billion annually from consumers to producers through increased sugar prices. See Ralph Ives and John Hurley, eds., U.S. Dep't of Commerce, Int'l Trade Admin., *United States Sugar Policy: An Analysis* 10 (U.S. Dep't of Commerce, 1988) (estimating $1.9 billion in lost consumer welfare every year); Rekha Mehra, *Winners and Losers in the U.S. Sugar Program*, 94 Resources 5, 7 (Winter 1989) (estimating annual transfers of $1 to $1.5 billion). This program also distorts the sweetener market by erecting a price umbrella under

the most direct beneficiaries of publicly funded higher education[153] and are therefore not to be fully trusted in these matters, agricultural economists frequently laud the allocative efficiency and public-regarding nature of the land grant system.[154]

Agrarian activists not only disagree; they have pressed their grievances against the land grant system in court. In the late 1980s, the California Agrarian Action Project ("CAAP") actually persuaded a state trial court to invalidate the University of California's entire agricultural research effort. The university allegedly adopted "as a basic policy goal the development of machines and other technology to reduce the use of labor as a means of agricultural production" without developing a "process designed to ensure consideration" of policy interests dear to "the small family farmer."[155] Only on appeal did the university secure judicial recognition of the seemingly self-evident principle that federal funding does not obligate agricultural colleges to "establish . . . an administrative process to ensure . . . primary consideration for [the needs of] the small family farmer."[156]

In essence, CAAP wanted an agrarian version of the National Environmental Policy Act ("NEPA"),[157] an honest-to-goodness "Ag NEPA." CAAP demanded *economic* impact statements whenever major land grant research initiatives might have a significant

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which inferior sweeteners (especially high-fructose corn syrup) can siphon away price-sensitive markets. See Monahan, 15 Hastings Int'l & Comp. L. Rev. at 342-43 (cited in note 97) (illustrating how high-fructose syrup has displaced sugar in many industries). Compare *United States v. Archer-Daniel-Midland Co.*, 866 F.2d 242, 246 (8th Cir. 1988) (conceding that sugar and high-fructose corn syrup "are functionally interchangeable" and "admitt[ed]ly similar in use and quality").

153. See generally E.G. West, *The Political Economy of American Public School Legislation*, 10 J. L. & Econ. 101 (1967) (discussing the costs of public education). Compare Ronald H. Coase, *The Market for Goods and the Market for Ideas*, in *Essays on Economics and Economists* 64, 73-74 (U. of Chicago, 1994) (arguing that differences in academic attitudes toward governmental regulation of economic markets and toward regulation of free speech stem largely from professors' self-interest in "measures . . . which increase the demand for the services of intellectuals").

154. See, for example, Gordon C. Rausser and David Nielson, *Looking Ahead: Agricultural Policy in the 1990s*, 23 U.C. Davis L. Rev. 415, 422 (1990) (arguing that this system is "potentially pareto improving and welfare enhancing from a societal perspective"). But compare Earl O. Heady, *Public Policies in Relation to Farm Size and Structure*, 23 S.D. L. Rev. 608, 612 n.10 (1978) (arguing that "the private sector would have eventually supplied" the agricultural research generated by the land grant system).

155. J.W. Looney, *The Changing Focus of Government Regulation of Agriculture in the United States*, 44 Mercer L. Rev. 763, 815-16 (1993).

156. *California Agrarian Action Project, Inc. v. University of California*, 210 Cal. App. 3d 1245, 258 Cal. Rptr. 769, 770 (1989).

157. 42 U.S.C. §§ 4321-4370d (1988).

economic impact on the farm sector.[158] As country singer Patsy Cline is reputed to have said, though, "People in hell want ice water, but that don't mean they get any."[159] At bottom, CAAP's gripe against the University of California was neither novel nor useful.[160] Sympathetic scholars had long ago urged the use of the real NEPA as a procedural check on land grant universities' mechanization research.[161] Beneath the green veneer, the NEPA argument's true colors showed: the agrarian attack on the land grant system's academic freedom effectively equated small farmers' economic viability with environmental protection.[162] On so thin a reed, this NEPA-based assault on the land grant system could not stand. By themselves, "socio-economic" consequences such as farmworker displacement or family farm bankruptcy cannot trigger the obligation to prepare an environmental impact statement under NEPA; federal action must have a "primary impact on the physical environment."[163] Whether "the gains from [a] technological advance" on the farm "are worth its attendant risks" to certain elements of the rural population is "quite different" and distant from the legally relevant question of whether "the same gains are worth a given level of alteration of our physical environment or depletion of our natural resources."[164]

As the NEPA analogy suggests, the CAAP lawsuit is not the only, but merely the most recent, expression of agrarian disgust with

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158. Compare id. § 4332 (requiring environmental impact statements whenever major federal action has a significant environmental impact).

159. Watch Jessica Lange, in *Sweet Dreams* (Paramount, 1986). Compare Patsy Cline, *Crazy*, on *12 Greatest Hits* (MCA Records, 1988).

160. Compare Act of July 19, 1952, 35 U.S.C. § 101 (1988) (restricting patent protection to "new and useful" inventions) with Stephen L. Carter, *Academic Tenure and "White Male" Standards: Some Lessons from the Patent Law*, 100 Yale L. J. 2065 (1991) (using legal standards for patentability to assess academic standards for "tenurability").

161. See Robert S. Catz, *Land Grant Colleges and Mechanization: A Need for Environmental Assessment*, 47 Geo. Wash. L. Rev. 740, 741 (1979) (suggesting that the NEPA "applies to agricultural research and development projects that receive federal monies through the land grant college system"); Lawrence A. Haun, Comment, *The Public Purpose Doctrine and University of California Farm Mechanization Research*, 11 U.C. Davis L. Rev. 599, 599 (1978) (arguing that "judicial regulation of university research under the public purpose doctrine is a proper and expedient means to resolve research controversies").

162. See Catz, 47 Geo. Wash. L. Rev. at 746-48 (arguing that "federal policy makers are ultimately responsible for the environmental effects and social problems caused by agricultural technology"); Howard S. Scher, Robert S. Catz, and Gregory H. Mathews, *USDA: Agriculture at the Expense of Small Farmers and Farmworkers*, 7 Toledo L. Rev. 837, 848-51 (1976) (discussing the effects of USDA policy on the small farmer).

163. *Image of Greater San Antonio v. Brown*, 570 F.2d 517, 522-23 (5th Cir. 1978) (holding that the disruption of preexisting employment relationships does not constitute "primary impact on the physical environment"). Compare Council on Envir. Quality, 40 C.F.R. § 1508.14 (1994) (defining human environment to "include the natural and physical environment and the relationship of people with that environment").

164. *Metropolitan Edison Co. v. People Against Nuclear Energy*, 460 U.S. 766, 776 (1983).

the land grant system's research agenda. In 1972, Jim Hightower, one of America's foremost agrarian firebrands, condemned the land grant complex for its failure "to focus the preponderance of its resources on the full development of the rural potential," for failing to help "make the American countryside a place where millions of people can live and work in dignity."[165] As CAAP did in its lawsuit, Hightower attacked tomato harvester research. He pinpointed the link between mechanization of tomato harvesting and the need for a genetically engineered "tomato . . . hard enough to survive the grip of mechanical 'fingers.' "[166] Thus emerged the shibboleth of the agrarian campaign against traditional land grant research: *hard tomatoes* from the lab, *hard times* for the displaced hand harvesters rendered obsolete by mechanization. The notorious "Hightower Report" became the subject of a congressional hearing on agricultural research policy.[167] CAAP and Hightower's henchmen came perilously close to prevailing in the court of public policy; in 1979, Secretary of Agriculture Bob Bergland announced his opposition to public funding of agricultural research that might eliminate farmworkers' jobs.[168] Agrarian activists continue to decry what they perceive to be the land grant research agenda's bias toward large-scale farming and business opportunities in the nonfarm sector of the economy.[169]

But the harder we look, the more arbitrary and capricious the agrarian tirade against the land grant system seems.[170] The intricate lattice of American agricultural legislation does not impose NEPA-like obligations on land grant researchers to conform their work according to any one vision of social and economic planning for the farm sector. Not only do the land grant network's organic statutes express the

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165. Jim Hightower, *Hard Tomatoes, Hard Times* 7 (Schenkman, 1973).

166. Id. at 30. See generally id. at 21-64 (blasting land grant college research for virtually every conceivable affront to agrarian values).

167. See Hearings Before a Subcommittee of the Committee on Appropriations, H.R., 95th Cong., 1st Sess. (April 20, 1977), reprinted in Hightower, *Hard Tomatoes, Hard Times* at 179-242 (cited in note 165).

168. See E. Marshall, *Bergland Opposed on Farm Machinery Policy*, 208 Science 578, 578 (1980); Vernon W. Ruttan, *Moral Responsibility in Agricultural Research*, 15 S. J. Agric. Econ. 73, 74 (1983).

169. See, for example, Stew Smith, *"Farming"—It's Declining in the U.S.*, Choices 8, 9-10 (1st Q. 1992).

170. Compare *Vermont Yankee*, 435 U.S. at 519 (rejecting both an attempt to expand NEPA's scope and an abortive redefinition of the "hard look" doctrine under traditional administrative law). See generally *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Ins. Co.*, 463 U.S. 29 (1983), the quintessential "hard look" case.

system's mission in the broadest possible terms;[171] they also grant "the legislatures of the [recipient] states" the express power to guide the use of funds granted by the federal government.[172] The two statutes that do explicitly impose procedural limits on American agricultural policymaking bypass the concerns at the heart of CAAP's complaint. The Consolidated Farm and Rural Development Act does express a general policy that "no [agricultural or agriculture-related program] be administered in a manner that will place the family farm operation at an unfair economic disadvantage,"[173] but the only mechanical restraint it places on governmental action is its requirement that the Secretary of Agriculture submit an annual report on the status of the family farm.[174] The Farmland Protection Policy Act[175] requires federal agencies to explain whether their activities foster nonagricultural use of farmland,[176] but this was hardly CAAP's concern.

The cold, unadorned language of these statutes eliminates the shaky legal ground on which CAAP, Hightower, and other agrarian malcontents have stood. Whether it construes statutes or reads them as sources of principled law,[177] the interpretive conscience of American public law proclaims, "*Expressio unius est exclusio alterius.*"[178] Congress knows precisely how to block the use of federal funds for purposes it disapproves,[179] and such limits on the federal purse are absolute.[180] The statutes creating the land grant system do not sub-

171. See, for example, Morrill Land-Grant College Act of 1862, 7 U.S.C. § 304 (1988) (directing land grant colleges "to teach such branches of learning as are related to agriculture and the mechanic arts"—"without excluding other scientific and classical studies and including military tactics"—"in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life"); id. § 361b (prescribing the broad promotion of "the development and improvement of the rural home and rural life and the maximum contribution by agriculture to the welfare of the consumer"); id. § 427 (describing the mission of agriculture research in similarly broad terms).

172. Id. § 304.

173. 7 U.S.C. § 2266(a) (1988).

174. See id. § 2266(b).

175. 7 U.S.C. §§ 4201-4209 (1988).

176. See generally William L. Church, *Farmland Conversion: The View from 1986*, 1986 U. Ill. L. Rev. 521; Corwin W. Johnson and Valerie M. Fogleman, *The Farmland Protection Protection Act: Stillbirth of a Policy?*, 1986 U. Ill. L. Rev. 563.

177. For the classic example of the view of statutes as principled law and the legisprudential technique of reasoning by statutory analogy, see generally *Moragne v. States Marine Lines, Inc.*, 398 U.S. 375 (1970); Daniel A. Farber, *The Ages of American Formalism*, 90 Nw. L. Rev. 1 (1996).

178. *Leatherman v. Tarrant County Narcotics Intelligence & Coordination Unit*, 113 S. Ct. 1160, 1163 (1993).

179. See, for example, *Rust v. Sullivan*, 500 U.S. 173, 191 (1991) (noting how Congress in Title X of the Public Health Service Act, 42 U.S.C. §§ 300-300a-6 (1988), "forbade the use of [federally] appropriated funds in programs where abortion is a method of family planning").

180. See U.S. Const., Art. I, § 9, cl. 7 (stating that "[n]o Money shall be drawn from the Treasury, but in Consequence of Appropriations made by Law"); *Office of Personnel*

ject the research agendas of funded institutions to tests of economic correctness. The one statute that explicitly modifies land grant institutions' behavior is the agrarian equivalent of Title IX:[181] the Morrill Land-Grant College Act of 1890.[182] Despite prohibiting "distinction[s] of race or color . . . made in the admission of [land grant university] students," this statute authorized "the establishment and maintenance of [agricultural] colleges separately for white and colored students"[183] a full six years before *Plessy v. Ferguson* first sanctified the phrase "separate but equal."[184] But let us leave well enough alone, lest excessive realism about American agriculture's racial legacy[185] expose how producer primacy in American public law benefits whites in a grossly disproportionate way.[186]

Of this much we can be sure: The agrarian protest against the land grant system rests squarely on the tenets of the American Ideology. According to CAAP, Hightower, and like-minded critics, land grant research priorities favor nonfarm people over farmers, big corporate farmers over little family farmers, nonfarm inputs over on-farm management, mechanical and biotechnological wizardry over incremental, "natural" improvements in the farm economy.[187] Thanks to the "agribusiness" bias in their research agenda, unscrupulous land

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Management v. Richmond, 496 U.S. 414, 424-26 (1990) (underscoring "the straightforward and explicit command of the Appropriations Clause"). See generally Kate Stith, *Congress' Power of the Purse*, 97 Yale L. J. 1343 (1988).

181. See Education Amendments of 1972 § 901, 20 U.S.C. § 1681 (1988); *Cannon v. University of Chicago*, 441 U.S. 677, 689-710 (1979).

182. Act of Aug. 30, 1890, ch. 841, § 1, 26 Stat. 417, codified as amended at 7 U.S.C. § 323. But compare *Heaton v. Bristol*, 317 S.W.2d 86, 100 (Tex. Ct. Civ. App. 1958) (holding that acceptance of federal land-grant funding did not compel the admission of women to Texas A&M).

183. 7 U.S.C. § 323 (1988).

184. 163 U.S. 537, 557 (1896). For an introduction to the voluminous literature on the black land-grant colleges, see William Payne, *The Negro Land-Grant Colleges*, 3 Civil Rights Digest 12 (Spring 1970); Symposium, *Anachronisms or Rising Stars: The Black Land Grant System in Perspective*, 9 Agric. & Human Values 1 (Winter 1992).

185. See, for example, Paarlberg, *Farm and Food Policy* at 229-31 (cited in note 26) (discussing agriculture's "strong white tradition"); Chen, 48 Vand. L. Rev. (forthcoming, Oct. 1995) (cited in note 85) (arguing that the "history of racial injustice in the United States can be succinctly stated in agricultural terms"); Linder, 65 Tex. L. Rev. at 1335 (cited in note 19).

186. Of America's 2,088,000 farm operators in 1987, all but 45,000 were white. See *Statistical Abstract* at 666 (cited in note 28). In other words, the entrepreneurial work force of American agriculture is 97.8% white. By contrast, wage and piecework farmworkers in the United States are—by and large—brown, foreign-born, Spanish-speaking noncitizens. See, for example, Philip L. Martin, *The Outlook for Agricultural Labor in 1990s*, 23 U.C. Davis L. Rev. 499, 523 (1990) (lamenting how agricultural labor law in the United States has perversely "fulfill[ed] the prophecy that 'Americans won't do seasonal farmwork' ").

187. See generally Earl O. Heady, *Externalities of American Agricultural Policy*, 7 U. Toledo L. Rev. 795 (1976).

grant scientists freely accept funding from multinational corporations interested in commercial applications of their research. Meanwhile, land grant university administrators have been loath to fund research on rural development, organic farming techniques, and sustainable agriculture. The once-heroic knights of the land grant brotherhood—"the scientist, the engineer, and the agronomist"—"have been demoted from culture heroes to villains," evil exploiters who put their own "class interests" before the dual demands of science and justice.[188]

All this treachery is supposed to have taken place in the realm of pure thought, in the rotten cranial recesses of venal land grant scientists.[189] It has not occurred to any of these agrarians to inquire into the connection of their American Ideology with American economics, to test the relation of their metaphysical protest to the pragmatic realities of farming in a market economy.[190] The fiercest adherents of agricultural fundamentalism have scarcely begun to consider why material assistance to the farm sector inexorably compresses agriculture's social and economic significance, why political gluttony is modern agriculture's deadliest sin.

V. CRISIS AND CLASS STRUGGLE IN THE LAND GRANT SYSTEM

A. Boilermakers, Treadmill Grinders, and Rural Joyriders

It is time to state the obvious: Public funding for agricultural education and research has accelerated the structural transformation of American agriculture from an economically and socially independent community into a weak, legislatively shielded ward of the consumerist state. Land grant researchers' technological triumphs[191] routinely deal economic death to the system's original constituents. Agricultural education, one of the most modest forms of governmental

188. Vernon W. Ruttan, *Agricultural Scientists as Reluctant Revolutionaries*, 7 Interdisciplinary Science Reviews 170, 172 (1982).

189. Compare Marx, *The German Ideology* at 111 (cited in note 34) (stating that "[a]ll this"—the German intellectual revolution of 1842 to 1845—"is supposed to have taken place in the realm of pure thought").

190. Compare id. at 113 ("[i]t has not occurred to any one of these philosophers to inquire into the connection of German philosophy with German reality, the relation of their criticism to their own material surroundings").

191. See, for example, Robert E. Evenson, Paul E. Waggoner, and Vernon W. Ruttan, *Economic Benefits from Research: An Example from Agriculture*, 205 Science 1101 (1979) (analyzing the economic returns from agricultural research investment).

intervention in agricultural markets,[192] has proved to be one of the most powerful forces eroding demand for entrepreneurial farm labor. Scarcely one in twenty recent graduates of the University of Minnesota's College of Agriculture has found farm-related employment.[193] This is hardly a new phenomenon. In 1978, two-thirds of Purdue University's agricultural students had nonfarm backgrounds, and merely eighteen percent of agricultural graduates secured employment as farmers or farm managers.[194]

In short, the education-fueled "industrial revolution in agriculture" has systematically moved "people from rural areas to urban areas," "left a backwash of farm people who could not keep with the industrial revolution," and accelerated the "specialization of agricultural production."[195] The clash between the "two major objectives" of the land grant mission to enhance agricultural productivity—enhancing farm income versus "mak[ing] agricultural commodities available to consumers on increasingly more favorable terms"—was inevitable.[196] Although the pioneers of the developmental agenda in American agriculture fully expected educational and research subsidies to fuel agriculture's economic engine, their agrarian successors seem not to have anticipated how the land grant system would inevitably contribute to the industrialization of farm pro-

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192. See note 152 and accompanying text. The recently completed Uruguay Round of Multilateral Trade Negotiations' Agreement on Agriculture exempts domestic support for agricultural research and extension as "measures [that] have no, or at most minimal, trade-distorting effects." GATT 1994, *Agreement on Agriculture*, Annex 2.1, 2.2(a), (d).

193. These figures were provided by the career services office of the University of Minnesota's College of Agriculture in October 1994:

Date of graduation	Farmers	Graduates	Percentage
1989-90	8	151	(5.3%)
1990-91	10	128	(7.8%)
1991-92	9	148	(6.1%)
1992-93	5	147	(3.4%)
Total	32	574	(5.6%)

These statistics reflect the number of students who entered farming or farm management within one year of acquiring a bachelor's degree in the College of Agriculture. The degrees awarded are traditionally associated with farm management careers—for example, agricultural business management, agricultural science, agricultural industries and marketing, and animal and plant systems.

194. See Paarlberg, *Farm and Food Policy* at 17 (cited in note 26).

195. Soth, 52 Am. J. Agric. Econ. at 665 (cited in note 140).

196. Vernon W. Ruttan, *Increasing Productivity and Efficiency in Agriculture*, 231 Science 781, 781 (1986).

duction and to the export of human resources from the agricultural sector. Hell has no fury like a duped agrarian.

Small wonder, then, that some farmers have reacted to publicly funded agricultural research by calling for restrictions on the land grant community's academic freedom.[197] In particular, highly publicized "developments in biotechnology have caused farmers themselves to question the wisdom of research that could have a detrimental effect on their own futures."[198] Biotechnological wizardry, however, tends to obscure the general tendency of the land grant agenda. *All* agricultural research inherently offends the American Ideology that would fix the share of human capital dedicated to agriculture. One astute and experienced observer has described the crucial dynamic:

> Experiment stations developed new agricultural science that immensely increased the supply of agricultural products, resulting in downward pressure on farm prices. Early adop[t]ers were benefited, true enough, but those farmers who would not or could not or in any case *did* not adopt the new technology were squeezed. As it turned out, the consumers rather than the farmers were the prime beneficiaries. Farmers as a whole saw their standard of living rise, but they were helped more as members of an advancing open society than as specific beneficiaries of the experiment stations. Farmers found that they could not, as a vocational group, capture and hold the gains that flowed from the institutions they had set up. The National Farmers Union protested strongly against the research and education community and the price-depressing abundance that flowed from it. But the experiment stations persisted in their scientific inquiry, demonstrating allegiance to the advancement of science.[199]

Agricultural education, extension, and research expose the normative flaw in traditional agrarianism. Who could possibly oppose better information, better education, and patentable innovations introduced directly into the public domain? Aren't these the beginnings of an improved rural life? Who can complain when the land grant system enhances farm productivity and educates the sons and daughters of rural America? The American Ideologue sees none of these gains, preferring to denounce the land grant system's contribution to the human exodus from American farms. Improved farm technology got farmers what they sought: additional production. But enhanced production merely increases aggregate supply, which in

197. See id. (criticizing proposals for "a moratorium on agricultural research and technology development" as "seriously flawed").

198. Looney, 44 Mercer L. Rev. at 816 (cited in note 155).

199. Paarlberg, *Farm and Food Policy* at 15-16 (cited in note 26).

turn depresses prices. The drop in prices increases the pressure to push production even more, with resort to even more advanced technology and even greater reliance on borrowed capital. The benefits bestowed by new technology fall unevenly, both within the farm sector and elsewhere in the agricultural economy. New technology deepens individual farmers' reliance on costly, nonfarm inputs. Ever thirstier for leverage and more vulnerable to risk, farmers seek the capital and the contractual certainty that agribusiness can supply. Vertical integration proceeds apace, while marginal producers drop out of farming. Input and processing agribusinesses tighten their grip on farm production.[200]

This process merely reflects the economic dynamics of agriculture as a structurally competitive sector of the economy dedicated to the production of an inferior good. Agricultural economist Willard W. Cochrane formally described this mechanism in his renowned model of the "agricultural treadmill."[201] Demand for agricultural commodities—as opposed to total spending on food, which includes payments for value-added processing and preparation—is largely inelastic. Food is an inferior good, which means that additional wealth does not translate into a proportionate increase in food consumption.[202] In other words, although a 1 percent increase in population should result in a 1 percent increase in food consumption, a comparable increase in per capita income scarcely boosts demand for farm commodities. The overall income elasticity for food is a modest 0.35, which means that a 10 percent increase in income yields a 3.5 percent increase in food spending.[203] Not surprisingly, the most income-elastic subcategories

200. For a more complete analysis of the interplay between the land grant system's activities and the economic characteristics of American farms, see Wallace E. Huffman and Robert E. Evenson, *The Effects of R&D on Farm Size, Specialization, and Productivity*, in S. R. Johnson and S. A. Martin, eds., *Industrial Policy for Agriculture in the Global Economy* at 41 (Iowa State U., 1993).

201. See Willard W. Cochrane, *Farm Prices: Myth and Reality* 85-107 (U. of Minn., 1958) (discussing the "agricultural treadmill"); Willard W. Cochrane, *The Development of American Agriculture: A Historical Analysis* 378-95 (U. of Minn., 1979) (discussing "government intervention, cannibalism, and the treadmill"). During the earliest stages of its development, classical economics recognized the cyclical relationship between agricultural production, food consumption, and commodity prices. See Todd G. Buchholz, *New Ideas From Dead Economists* 76 (New American Library, 1989) (describing David Ricardo's version of the agricultural treadmill as the "stationary state").

202. See Cochrane, *Farm Prices* at 86-87; Senauer, Asp, and Kinsey, *Food Trends* at 138 (cited in note 82) (stating that expenditures on inferior goods actually decline as income rises).

203. See James R. Blaylock and David M. Smallwood, *U.S. Demand for Food: Household Expenditures, Demographics, and Projections* 13 (U.S.D.A., Econ. Research Serv. Tech. Bull. No. 1713, 1986). Compare Noel Blisard and James R. Blaylock, *U.S. Demand for Food: Household*

of food spending are amounts spent on food away from home (0.57) and alcoholic beverages (0.56).[204] No category of food spending, however, is income elastic in the absolute sense. Income elasticity of this sort—above 1.0—characterizes a luxury good.[205] Put bluntly, "[c]onsumers . . . prefer to use additional income to purchase automobiles, durable goods, sporting goods, vacations, and services with their food"—everything, that is, except "more food."[206]

As the modern economy quickens its pace and puts pressure on urban workers' already limited time, consumer preferences for convenience and quality intensify. When a consumer decides to pay $50 for a gourmet meal of *coq au vin*, she makes the broiler producer no better off than if she had decided pay $5 for a raw chicken at the grocery store. Rather, what the consumer has done is substitute capital for labor. She has swapped $45 of her personal wealth for time—time out of her overheated kitchen and in a comfortable restaurant. More accurately, our consumer has exchanged several forms of limited (and therefore valuable) time: she has converted time employed outside the home into wealth, which buys her the chance to spend less time on food preparation and more time on other, more rewarding pursuits. A similar substitution takes place when this consumer buys processed breakfast cereal: she gets nourishment (albeit at a price) in exchange for the luxury of spending fifteen seconds on meal preparation. The wheat, corn, or oat farmer who grew the grain gets no more. In this respect, the farmer's share of the consumer's "food dollar"—a statistic popularized by the Future Farmers of America and many other agrarian organizations—is meaningless at best and misleading at worst. Since the "*full price* of [a meal] comprises both the cash expenditure and the time costs to make the [meal] consumable,"[207] a more useful form of economic analysis focuses on the consumer's decision to swap income for time, to assess the opportunity cost imbedded in the decision to prepare food at home.[208] The "food dollar" statistic serves at most one purpose: it vividly illustrates what economists mean by characterizing food as an inferior good. Farm-produced commodities

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Expenditures and Projections for 1990-2010 53 (U.S.D.A., Econ. Research Serv. Tech. Bull No. 1818, 1988) (projecting a total food income elasticity of 0.3183).

204. Blaylock and Smallwood, *U.S. Demand for Food* at 13.

205. Senauer, Asp, and Kinsey, *Food Trends* at 138 (cited in note 82).

206. Cochrane, *Farm Prices* at 87 (cited in note 201).

207. Senauer, Asp, and Kinsey, *Food Trends* at 157 (cited in note 82).

208. See Gary S. Becker, *A Theory of the Allocation of Time*, 75 Econ. J. 493, 500-17 (1965) (evaluating how the cost of leisure consists of forgone earnings and the price of other goods).

constitute a trivial component of food spending by the richest, busiest, and most harried consumers in America.[209]

Similar substitutions take place on the farm, the supply side of this transaction. Traditional agriculturalists exhibit a "land fetish"—they assume that available acreage is the only relevant constraint on productive capacity.[210] But defining agriculture according to the "ownership of land has no legal or economic validity."[211] Technology has vastly expanded agricultural productivity throughout the world's industrialized societies, where "agriculture has made a transition from a resource-based to a science-based industry."[212] "Economic progress" in agriculture "is characterized by a progressive division of labor and separation of function"; power supplied in one era "by the farmer's mules" will be "derived from electricity and gasoline" in another.[213]

Such evolution is all the more urgent in a world that can no longer meet increases in food and fiber demands merely "by expanding the area cultivated," but rather must take full "advantage of yield-increasing biological and chemical technology."[214] In early twentieth century America, the tractor enabled the cheap, efficient tillage of millions of acres without animal power. Suddenly millions of acres devoted to production of crops for animal feed were released. So were

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209. See, for example, Vicki A. McCracken and Jon A. Brandt, *Household Consumption of Food-Away-from-Home: Total Expenditure and by Type of Food Facility*, 69 Am. J. Agric. Econ. 274, 275 (1987) (describing the propensity to consume fast food away from home and convenience food at home as a function of the value of the consumer's limited time). Compare Jean Kinsey, *Working Wives and the Marginal Propensity to Consume Food Away from Home*, 65 Am. J. Agric. Econ. 10, 17 (1983) (finding a particularly strong tendency to consume food away from home among working women with family responsibilities). See generally Bickley Townsend and Martha Farnsworth Riche, *Two Paychecks and Seven Lifestyles*, 9 Am. Demographics 24 (Aug. 1987) (tracing the seven ages of the two-earner American family).

210. See, for example, Marty Strange, *Family Farming: A New Economic Vision* 43-55 (U. of Neb., 1988) (characterizing "land" as "the central issue" in the economic struggle between family farming and industrialized agribusiness). For a classic statement of this assumption within positive law, consider the Farmland Protection Policy Act's congressional finding that "continued decrease in the [United States'] farmland base may threaten the ability of the United States to produce food and fiber in sufficient quantities." 7 U.S.C. § 4201(a)(3).

211. *National Broiler Marketing Ass'n v. United States*, 436 U.S. 816, 847 (1978) (White, J., dissenting).

212. Vernon W. Ruttan, *The Global Agricultural Support System*, 222 Science 11, 11 (1983). See also Vernon W. Ruttan, *Research to Meet Crop Production Needs: Into the 21st Century*, in D.R. Buxton, et al., eds., *International Crop Science I* 3, 4 (Crop Science Society of America, 1993) (stating that this transition is taking place within a single century).

213. *Farmers Reservoir & Irrigation Co. v. McComb*, 337 U.S. 755, 761 (1949).

214. Ruttan, 222 Science at 11 (cited in note 212). See also Ruttan, *Research to Meet Crop Production Needs* at 4 (cited in note 212) (stating that virtually all increases in world food production in the 21st century must come from higher yields).

millions of hours of human labor, some of which could not find comparably rewarding employment. Every improvement in farm mechanization, plant and animal breeding, plant and animal disease control, or farm management practices replaces a relatively inefficient agricultural input and releases it for some other use. When the obsolete input is a chattel with a reasonably high salvage value, we cheer it as progress; when the obsolete input is human labor, the agrarians among us decry the human exodus and urge the public to rescue the endangered farmer.[215] The political economy of American agriculture thus confirms a truth that students of industrial organization have begun to recognize: that costs of exit exert far more influence than do barriers to entry on the levels of competition and concentration within any given market.

Sadly, agrarian whining obscures the genuine liberation effected by new agricultural technology: "In those parts of the world where the constraints on natural fertility of the land have been released and the power of technology has been harnessed, the old servile relationship between those who owned only labor and those who owned land but did not labor has been broken."[216] In a very real sense, preserving small, low-technology farms means condemning yet another generation of unskilled workers to the historic dominion of the manor lord, the slaveowner, and the *padrone*.[217] Absent preferential access to low-wage labor,[218] smaller, suboptimally sized farms cannot compete against larger farms that can fully exploit the efficiency-enhancing promise of farm mechanization. Nor should we ignore the patronizing racial overtones of arguments against agricultural modernization. Although "[t]he milling of grain by the use of wind and water power was counted as progress in twelfth century Europe," today's agrarian critics "view the substitution of rice mills for hand pounding as destructive of opportunities for work in twentieth century Java."[219] In California, on the eve of the twenty-first century, we might well ask whether pleas on behalf of largely Hispanic

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215. See generally Elizabeth E. Bailey and William J. Baumol, *Deregulation and the Theory of Contestable Markets*, 1 Yale J. on Reg. 111 (1984).

216. Ruttan, 7 Interdisciplinary Science Reviews at 170 (cited in note 188).

217. See id. (stating that "[t]he [technologically liberated] farmer, unlike the peasant, feels no need to tip his hat and render a *servo vostro* or *un bacio la mano* to the *padrone*").

218. See, for example, *Flores v. Rios*, 36 F.3d 507, 516 (6th Cir. 1994) (revoking a family farm's exemption from the Migrant and Seasonal Agricultural Worker Protection Act); *Calderon v. Witvoet*, 764 F. Supp. 536, 541 (C.D. Ill. 1991) (same). Compare 29 U.S.C. § 213(a)(6) (permitting smaller-scale operators—namely, farmers employing fewer than 500 man-days of labor each year or relying on the labor of their immediate families—to evade the Fair Labor Standards Act's minimum wage and maximum hour provisions in their entirety).

219. Ruttan, 7 Interdisciplinary Science Reviews at 171 (cited in note 188).

displaced farmworkers are mere smokescreens for the vested economic interests of their largely Anglo employers. Take away a temporary labor shortage on fruit and vegetable farms, and the same Spanish-speaking aliens who once were prized as guestworkers[220] can suddenly become unwelcome competitors for "benefits [and] public services" and a source of "economic hardship."[221] Strange, isn't it, how the same change can turn a former friend of open immigration into an inveterate foe.[222]

B. Adapt and Die

Let us turn from the *political* implications of vertical integration *on* the farm to the *economic* implications of vertical integration *of* the farm. Industrialization also weakens agriculture's relative position in an economically integrated society, for new agricultural technology is largely exogenous to the farm sector. The greatest advances in farm productivity result not from marginal improvements in breeding or managerial techniques within the reach of farmers, but from the astonishing stream of inventions and innovations generated by the publicly supported land grant system and by the private sector agribusinesses that hire land grant university graduates. As a rule, the sweat and perseverance for which American farmers are justly famous do *not* fuel agricultural progress. Rather, progress—defined as labor-saving, cost-reducing, production-enhancing improvements on the enterprise of cultivating plants and husbanding animals for human consumption—occurs in unpredictable, capricious spurts from the corporate boardrooms of multinational agribusinesses and from research laboratories at land grant universities. Even the established

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220. See, for example, the Special Agricultural Worker Program, 8 U.S.C. § 1160, of the Immigration Reform and Control Act of 1986, Pub. L. No. 99-603, 100 Stat. 3359. See generally H.R. Rep. No. 682, 99th Cong., 2d Sess., reprinted in 1986 U.S.C.C.A.N. 5649; Conf. Rep. on S. 1200, 99th Cong., 1st Sess., 132 Cong. Rec. 10,583 (Oct. 15, 1986); Conf. Rep. on S. 1200, 99th Cong., 1st Sess., 132 Cong. Rec. S16,611 (Oct. 15, 1986); Martin, 23 U.C. Davis L. Rev. at 504-17 (cited in note 186). Why bother? Because sanctions against the use of immigrant labor would have led unprofitably to "increased prices of perishable crops." Marilyn Chase, *California Growers Rail Against Efforts to Stem Flow of Illegal Aliens*, Wall St. J. A1 (Aug. 4, 1983).

221. Proposition 187, § 1, approved by the people of California, Nov. 8, 1994.

222. As a U.S. Senator, Pete Wilson championed the agricultural guestworker provisions of the 1986 immigration reform bill. See sources cited in note 220. As a governor seeking reelection, Wilson favored Proposition 187. See, for example, James Bornmeier, *California Elections: Charting Wilson's Transformation in Immigration*, L.A. Times A3 (Nov. 2, 1994); Hanna Rosin, *Once Upon a Time, Pete Wilson's Battle Cry Was "Save Our Immigrants,"* Minneapolis Star-Trib. 11A (Oct. 28, 1994).

agricultural entrepreneur cannot afford to ignore economic developments outside the farm sector: farm size increases and mechanization intensifies in proportion to the prevailing nonfarm wage rate, which is the opportunity cost of remaining in farming.[223]

If technology inexorably increases farm size and diminishes returns on the human capital of farm entrepreneurs, why do farmers adopt new technology at all? Let me offer a curt but correct answer: in the perfectly competitive sea that is agriculture, no farmer is an island.[224] Farmers would do well to study their counterparts in another structurally competitive sector of the economy: the capital market known as Wall Street. Driven by a comparable urge to find the most efficient use of their resources, financial arbitrageurs process new information—Wall Street's equivalent of new agricultural technology—almost instantaneously. The efficient capital markets hypothesis therefore posits that no secret weapon can enable any investment manager to "outperform the market" over any significant period of time.[225] In the vast sea of farmers, all producing fungible commodities, no farmer can demand a price higher than the prevailing market rate. Nor can any one farmer, acting alone, affect price

223. See Andrew P. Barkley, *The Determinants of the Migration of Labor out of Agriculture in the United States, 1940-84*, 72 Am. J. Agric. Econ. 567, 571 (1990) (evaluating the connection between migration out of agriculture and the nonfarm wage rate); Wallace E. Huffman, *Farm and Off-Farm Work Decisions: The Role of Human Capital*, 62 Rev. Econ. & Statistics 14, 22-23 (1980) (presenting economic evidence of the effect of education and agricultural extension on the off-farm labor supply of farmers); Yoav Kislev and Willis Peterson, *Prices, Technology, and Farm Size*, 90 J. Pol. Economy 578, 579 (1982) (arguing that the rise in urban incomes prompts farmers to leave agriculture, thus leaving a landscape of fewer but larger farms).

224. See, for example, *Wickard v. Filburn*, 317 U.S. 111, 127 (1942) (noting that the putatively private act of consuming "home-grown wheat" on the farm represented "the most variable factor in the disappearance of the wheat crop" and hence the most volatile ingredient in a comprehensive system of price support, income support, and supply control for wheat farmers). Compare John Donne, *Meditation 17: Nunc lento sonitu dicunt, Morieris*, in *Devotions upon Emergent Occasions* 96, 98 (Folcroft, 1972) ("No man is an Iland, intire of it selfe . . . any mans *death* diminishes *me*, because I am involved in *Mankinde*; And therefore never send to know for whom the *bell* tolls; It tolls for *thee*").

225. See generally Eugene F. Fama, *Efficient Capital Markets: A Review of Theory and Empirical Work*, 25 J. Finance 383 (1970); Richard A. Ippolito, *Efficiency With Costly Information: A Study of Mutual Fund Performance, 1965-1984*, 104 Q. J. Econ. 1 (1989); Michael C. Jensen, *Risk, the Pricing of Capital Assets, and the Evaluation of Investment Portfolios*, 42 J. Bus. 167 (1969).

merely by manipulating output.[226] This is the essence of being a "poor and puny anonymit[y]" in a perfectly competitive marketplace:[227]

> Confronted with this situation, [a farmer] reasons "I can't influence price, but I can influence my own costs. I can get my costs down." So the typical farmer is always searching for some way to get his costs down. By definition a new technology is cost reducing (*i.e.*, it increases output per unit of input). Thus, the farmer is always on the lookout for new, cost-reducing technologies. Built into the market organization of agriculture, then, is a powerful incentive for adopting new technologies—the incentive of reducing costs on the individual farm.[228]

And once one farmer takes advantage of a technological breakthrough to boost production or cut costs, the sprawling network of extension offices established by American agricultural legislation[229] transmits that information as effectively as do the equivalent channels of communication in financial or political markets (that is, gossip).[230] No farmer can afford not to adopt the technology, lest the market price fall below his or her personal cost of production.[231]

Hence the battle cry known throughout American agriculture, "*Adapt or die.*"[232]

But this model of agricultural economics teaches yet another lesson. Standard references to mysterious biological factors in agriculture typically refer to the brooding omnipresence of life-and-death

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226. See, for example, *National Broiler Marketing Ass'n v. United States*, 436 U.S. 816, 825-26 (1978) (discussing market pressures faced by farmers who lacked control over market conditions); id. at 830-31 (Brennan, J., concurring) (noting farmers' inability to influence market price); id. at 841, 846, 849 (White, J., dissenting) (arguing that farmers were at a disadvantage because they sold individually to a group of organized middlemen, who were able to dictate the price they would pay).

227. *Abrams v. United States*, 250 U.S. 616, 629 (1919) (Holmes, J., dissenting).

228. Cochrane, *Farm Prices* at 106 (cited in note 201).

229. See Smith-Lever Act of 1914, 7 U.S.C. §§ 341-349 (1988) (authorizing and funding agricultural extension programs at colleges in each state, territory, and possession).

230. See, for example, *Carpenter v. United States*, 484 U.S. 19, 22-24 (1987) (describing how a Wall Street Journal reporter used the newspaper's "Heard on the Street" column to manipulate stock prices).

231. For a review of the literature on formal models of agricultural decisionmaking, see generally Peter Wagner, *Techniques of Representing Knowledge in Knowledge-Based Systems*, 41 Agric. Sys. 53 (1993).

232. See, for example, A. V. Krebs, *The Corporate Reapers: The Book of Agribusiness* 211 (Essential Books, 1992). Compare Hightower, *Hard Tomatoes, Hard Times* at 37 (cited in note 165) (criticizing former Secretary of Agriculture Earl Butz for telling independent farm operators to "adapt or die") with id. at 139 (urging "America [to] issue[ ] an ultimatum to the land grant complex: 'adapt or die' ").

cycles in farming,[233] to a need to reconcile human yearning with natural limitations. Of the many lessons children are supposed to learn on a farm, one is cold but direct: "[Y]ou learn that things die. You will never belong on a farm until you learn this."[234] On the farm, pigs, pets, and pests routinely die. So do entire economic systems.

In markets "already fully stocked" with competitors, every increase among "selected and favoured" firms means that "less favoured f[i]rms [will] decrease and become rare."[235] The ever decreasing number of small-scale, family-owned farms "will, during fluctuations in the seasons or in the number of its enemies, run a good chance of utter extinction."[236] The agroecological rhetoric in contemporary agricultural thought has largely sidestepped what is arguably the most significant idea in modern evolutionary biology: the Red Queen hypothesis.[237] A broad segment of the American population associates Darwinism with debates over the teaching of evolution in public schools,[238] and the very frequency of these recurring battles testifies to the profound degree of biological illiteracy among American proletarians. Their bourgeois counterparts are hardly better off. American conservatives are routinely bedazzled by theories linking economic and educational performance to the biologically meaningless social construct called race,[239] while the

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233. Compare *Southern Pacific Co. v. Jensen*, 244 U.S. 205, 222 (1917) (Holmes, J., dissenting) ("[t]he common law is not a brooding omnipresence in the sky but the articulate voice of some sovereign or quasi-sovereign that can be identified").

234. Susan Machler, *People With Pipes: A Question of Euthanasia*, 16 U. Puget Sound L. Rev. 781, 782 (1993).

235. Charles Darwin, *On the Origin of Species* 109 (Harvard U., 1964).

236. Id.

237. See generally Leigh Van Valen, *A New Evolutionary Law*, 1 Evolutionary Theory 1 (1973).

238. See *Edwards v. Aguillard*, 482 U.S. 578, 594 (1987) (striking down a Louisiana law requiring the teaching of "creation science" alongside any instruction in Darwinian evolution); *Epperson v. Arkansas*, 393 U.S. 97, 107-09 (1968) (striking down an Arkansas statute which banned outright the teaching of Darwinian evolution). Compare Steven Goldberg, *The Constitutional Status of American Science*, 1979 U. Ill. L. Rev. 1 (arguing that sound science should prevail over claims of religious freedom in such controversies) with Stephen L. Carter, *Evolutionism, Creationism, and Treating Religion as a Hobby*, 1987 Duke L. J. 977 (defending the teaching of creationism as a safeguard for religious freedom despite criticizing the theory on scientific grounds) and Wendell R. Bird, Note, *Freedom of Religion and Science Instruction in Public Schools*, 87 Yale L. J. 515 (1978) (defending creationism both as a matter of science and as a matter of constitutional law).

239. Compare Richard J. Herrnstein and Charles Murray, *The Bell Curve: Intelligence and Class Structure in American Life* 269-340 (Free, 1994) (describing ethnic differences in intelligence) with Luca Cavalli Sforza, *The Human Genome Diversity Project* 9-11 (Address given to the annual meeting of the American Association for the Advancement of Science, Atlanta, Feb. 19, 1995, copy on file with the Author) (downplaying the genetic significance of racial classifications) and Charles Petit, *Scientists Call Race Insignificant: They Say Differences Are Mostly Superficial*, San Francisco Chronicle A-1 (Feb. 20, 1995) (reporting that the

behavioralist dogma of the left has arguably ruined several generations of social science in the United States.[240] Liberal fear of Darwinian logic is so intense that well-intentioned white progressives have been powerless to resist the flawed creationist logic of critical race theorists and other self-styled "racialists."[241] American constitutional law's eagerness to shed itself of "Mr. Herbert Spencer's Social Statics"[242] merely testifies to the enduring influence of Victorian social Darwinism.[243]

All of these perceptions of Darwin's legacy share a common flaw: they assume wrongly that the evolutionary struggle is a game that can be won. This is the fallacy that the Red Queen hypothesis seeks to correct. Like the chess piece in Lewis Carroll's *Through the Looking Glass*, who keeps running without going anywhere because the landscape moves with her,[244] no creature in earth's brutally competitive, endlessly evolving biosphere ever gets a chance to savor the rewards of winning the battle of "survival of the fittest." Every adaptation within a reproductive community is matched by a countervailing maneuver by members of a rival group. Darwin's intuition that extinction is both inevitable and unpredictable[245] has been repeatedly confirmed, both by mathematical models[246] and by the fossil evidence.[247]

Failure to acknowledge the Red Queen's intellectual prominence has reduced economic and ecological analysis of agricultural

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American Association for the Advancement of Science has concluded that race and ethnicity are not biologically coherent concepts).

240. For exemplary critiques of this tendency, see generally Jerome H. Barkow, Leda Cosmides and John Tooby, eds., *The Adapted Mind: Evolutionary Psychology and the Generation of Culture* (Oxford U., 1992); Carl N. Degler, *In Search of Human Nature: The Decline and Revival of Darwinism in American Social Thought* (Oxford U., 1991). Compare generally Steven Pinker, *The Language Instinct: How the Mind Creates Language* (W. Morrow, 1994) (applying evolutionary biology to theories of language acquisition and formation).

241. See Jim Chen, *Unloving*, 80 Iowa L. Rev. 145, 160-61, 163, 167-68 (1994).

242. *Lochner v. New York*, 198 U.S. 45, 75 (1905) (Holmes, J., dissenting).

243. See, for example, John Kenneth Galbraith, *The Affluent Society* 52-58 (Houghton Mifflin, 1958) (explaining the influence of Social Darwinism and Spencer's theories on American thought in the late 1800s); Richard Hofstadter, *Social Darwinism in American Thought* (G. Braziller, 1959).

244. See Lewis Carroll, *Through the Looking-Glass and What Alice Found There* 26-45 (Macmillan, 1930) (describing Alice's encounter with the Red Queen).

245. See Darwin, *On the Origin of Species* at 109, 126, 320 (cited in note 235).

246. See, for example, David Tilman, et al., *Habitat Destruction and the Extinction Debt*, 371 Nature 65, 65 (1994) (hypothesizing, contrary to conventional assumptions, that habitat destruction "cause[s] time-delayed but deterministic extinction" of dominant species).

247. See, for example, John Maynard Smith, *The Theory of Evolution* 294-301 (Cambridge U., 1958) (analyzing archeological evidence of early humans' evolutionary development).

dynamics to a sad state of stalemate. If we move metaphorically from the chessboard to the gaming table, we would see a clear disparity in the intellectual applications of the Red Queen hypothesis. The growing literature that uses the Red Queen hypothesis to explain human sexual conduct[248] pays proper homage to the Queen of Hearts. Yet this Red Queen is almost too easily wooed; failing to apply evolutionary theory to problems of biological reproduction would be evidence of professional misconduct in any learned profession besides the practice of family law. By contrast, the Queen of Hearts' economic counterpart, the Queen of Diamonds, has attracted relatively few suitors.[249] This is a great loss, for we would truly profit from a steely-eyed study of farmers and other players in the agricultural marketplace as though they were ruthless parasites, predators, and competitors in an evolving economic ecosystem.[250]

During the "adapt or die" cycle of the agricultural treadmill, the Queen of Diamonds ruthlessly crushes any farmer who neglects or refuses to adopt a productivity-enhancing technology. Any farmer who fails, for whatever reason, to adapt to the technologically altered marketplace incurs a marginally higher cost of production. In a perfectly competitive market, such a failure spells economic death.[251]

Many models of agricultural production fail because they neglect to consider the impact of time and of changes in human response over time.[252] So too with the blithe notion that the Queen of

248. See, for example, Helen E. Fisher, *Anatomy of Love: The Natural History of Monogamy, Adultery and Divorce* 60-61 (Norton, 1992); Matt Ridley, *The Red Queen: Sex and the Evolution of Human Nature* 63-67 (Macmillan, 1994).

249. Compare The Eagles, *Desperado*, on *Desperado* (Electra, 1971) ("Don't you draw the Queen of Diamonds, boy, she'll beat you if she's able. The Queen of Hearts is always your best bet").

250. See generally Richard R. Nelson and Sidney G. Winter, *An Evolutionary Theory of Economic Change* (Belknap, 1982) (laying the theoretical foundation for precisely this sort of analysis).

251. For elaborations on this grossly oversimplified model of technology adoption in agriculture, see G. Feder and R. Slade, *The Acquisition of Information and the Adoption of New Technology*, 66 Am. J. Agric. Econ. 312 (1984); G. Feder, R. E. Just, and D. Zibberman, *Adoption of Agricultural Innovations in Developing Countries: A Survey*, 33 Econ. Dev. & Cult. Change 255 (1984-85); Atanu Saha, H. Alan Love, and Robert Schwart, *Adoption of Emerging Technologies Under Output Uncertainty*, 76 Am. J. Agric. Econ. 836 (1994).

252. Consider, for example, the original round of criticism leveled at Mordecai Ezekiel's celebrated article, *The Cobweb Theorem*, Q. J. Econ. 255 (Feb. 1938): "While it is perfectly in order to assume that objective costs of production and consumers' effective demand . . . remain constant for a series of time periods, it is inconsistent to . . . ignore the influence of these fluctuations on risk and speculation, . . . on the elasticities of the short run demand and supply schedules." F.G. Hooton, *Risk and the Cobweb Theorem*, Econ. J. 69, 79 (Mar. 1950). See also John F. Muth, *Rational Expectations and the Theory of Price Movements*, 29 Econometrica 315, 333 (1961) (concluding, after a comprehensive review of alternative explanations for price

Diamonds is content with her initial harvest of obsolete farmers who fail to adapt. The market experiences a technology-induced increase in supply. Increased supply suppresses the price of any given agricultural commodity. And falling prices do not increase total demand by price-inelastic food consumers. Thus, the farmer as price-taker cannot possibly maintain, much less improve, farm income simply by cutting costs and enhancing productivity through adaptation to a new form of technology. Something must yield. In a world where brute mechanical strength routinely whips farm entrepreneurship and labor, the human contribution to agriculture exits first. Onward roll the inexorable trends toward overproduction, toward human exodus from farming, toward concentration of productive resources within the food system.

Hence the slogan that everyone understands but no one articulates: "*Adapt and die.*"

Advocates of sustainable agriculture are especially fond of arguing that their ethic, one of voluntary restraint, promises a workable brake on the agricultural treadmill. Human nature being what it is, we might as well expect Sisyphus to stop rolling his rock in Tartarus.[253] Those who would coerce food consumers to renounce the bodily and mental pleasures of bourgeois society would do well to ponder how farmers themselves have consistently chosen the American Dream over the American Ideology:

> What were the forces behind the great changes on America's commercial farms? . . . [F]armers themselves wanted to increase their efficiency and production to improve their incomes. Farm families wanted to enjoy the same standards of living as people in nonfarm employment. They wanted to modernize their homes, to buy household appliances, to educate their children, and to take vacations like town and city folks. These things required more income. Since farm income was determined by units of production times price, farmers believed they could make more money by increasing their efficiency. This meant producing more crops and livestock in relation to the inputs of capital and labor. . . .[254]

An ethical system based on "manual work," "self-reliance," a strictly bipolar sexual division of labor between "farmer[s]" and "housewi[ves]," and affirmative enjoyment of "physical labor" simply

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movements, that "in the aggregate, the expected price is an unbiased predictor of the actual price").

253. See generally Albert Camus, *The Myth of Sisyphus and Other Essays* (Knopf, 1955).

254. Fite, *American Farmers* at 113-14 (cited in note 39).

cannot exist alongside a rival system of values that "emphasize[s] intellectual and scientific accomplishments, self-distinction, competitiveness, worldly success, and social life."[255] You cannot preach restraint and practice decadence at the same time. Unless American agrarians are prepared to elevate the asceticism they prescribe for others into a full-blown religion, "they must . . . abandon belief and be assimilated into society at large."[256]

If there is any anti-consumption contingent within the land grant system's ever-widening circle of constituents, it is the professors. Contrary to Jim Hightower's depiction of land grant researchers as academic prostitutes willing to gratify any agribusiness "client," land grant professors have spearheaded the campaign for sustainability and nourished various allied agroecological movements. Many of these professors boast farm or rural backgrounds. Quite a few nominally describe producer welfare, if not outright producer primacy, as their principal normative objective. Rather, farmers themselves, not their adversaries in agribusiness or the illusory pack of mercenary scientists purchased with agribusiness profits, have resisted the reorientation of the land grant research agenda away from industrialization. For example, agrarian traditionalists have vociferously lobbied the College of Natural Resources at the University of California to restore production agriculture as Berkeley's leading research priority, at the expense of in-house reformers who wish to tackle broader issues in all phases of natural resource use and conservation.[257]

In other words, to the extent land grant colleges betrayed agrarian interests by intensifying the role of technology and capital in farming, they did so at farmers' prodding. Farmers seeking a better life for themselves and their families sought the land grant system's help. To liberate future generations from the oppressive labor-intensive tradition of the past, farmers and their rural neighbors sent their children to the land grant colleges in Fargo, Brookings, St. Paul, Ames. These decisions accelerated rampant industrialization and rural depopulation. "[I]ncreas[ed] affluence" through enhanced agricultural productivity necessarily spells "the social and economic

255. *Wisconsin v. Yoder*, 406 U.S. 205, 211 (1972). See Frederick Engels, *The Origin of the Family, Private Property and the State* 94-146 (International, Eleanor Burke Leacock edition, 1972) (analyzing the implicit labor transactions imbedded in the institution of the family).

256. *Yoder*, 406 U.S. at 218.

257. See Marcia Barinaga, *A Bold New Program at Berkeley Runs Into Trouble*, 263 Science 1367, 1367 (1994).

decline of rural communities and small towns dependent on agriculture."[258] *Volenti non fit injuria.*

Agricultural research, especially in capital-intensive farm technology, reflects the fundamental problem with direct governmental aid to the farm sector. Research promises progress. But progress means change. And change leaves somebody behind. The desirability of this process depends entirely on the observer's perspective. The industrialist worships at the altar of progress. The agrarian laments the loss of markets for traditional labor, the loss of lifestyles associated with a slower rate of economic growth. Simply to treat the American Ideology as gospel and to seek legal solutions consistent with its tenets, however, cannot guarantee "desirable" results. "It does not require very sophisticated economic logic to show that technology provided directly to farmers can actually reduce farm incomes and the demand for farm labor when demand is inelastic."[259] Ironically, "public sector provision of new technology in the post-harvest agribusiness sector is likely to increase farm incomes and the demand for farm labor even in the presence of imperfect competition."[260] Those who envisioned the land grant university as a showcase for the American Ideology have only themselves to blame. In a quiet but powerful way, the land grant system has proved that the farm sector's entrepreneurial labor is not "the source of all wealth and all culture."[261] Tragic indeed is the fate of those who "falsely ascrib[e] *supernatural creative power* to labour."[262]

C. The Battle Hymn of the Post-Agrarian Republic

Lest we unduly lament the process by which bourgeois values force farmers to adapt and then to die, we should celebrate how the agricultural treadmill has improved the human condition. Lower production costs put more food in more mouths with less trauma today than ever before. Industrialized food production has enabled American consumers to reduce their food expenses to a mere tenth of

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258. Marion Clawson, *America's Land and Its Uses* 109 (Johns Hopkins, 1972).

259. Robert E. Evenson, *Intellectual Property Rights and Agribusiness Research and Development: Implications for the Public Agricultural Research System*, 65 Am. J. Agric. Econ. 967, 975 (1983).

260. Id.

261. Karl Marx, *Critique of the Gotha Program*, in Robert C. Tucker, ed., *The Marx-Engels Reader* 382, 382 (Norton, 1972).

262. Id. at 383.

their disposable incomes.[263] The residue has been freed for other expenditures—spending that, on balance, puts smiles on more faces than any other method of satisfying human needs and wants could ever do.

Nor should we forget that the battle over the American Ideology—the inherent conflict between farm producers and food consumers—is in fact a war over tax policy and redistribution of wealth by force of law.[264] Not only positive law, but also Engel's law: *ceterius paribus*, as a consumer's income increases, the proportion spent on food decreases.[265] According to Engel's law, the poor spend a disproportionately higher percentage of their limited incomes on food commodities. Lower food prices thus operate as a very effective surrogate for progressive taxation as a means for redistributing wealth. To understand this point fully, we must acknowledge the low-income counterpart of our wealthy gourmet: whereas wealthy consumers demand expensive, convenient foods because food preparation inflicts unacceptably high opportunity costs on them, the poor perform a much greater share of their own food preparation because their alternative uses of time offer less remuneration. The federal food stamp program reflects this intuition: generally speaking, the public does not permit food stamp recipients[266] to

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263. See J.J. Putnam, *Food Consumption, Prices, and Expenditures, 1967-88* 125 (U.S.D.A., Econ. Research Serv. Stat. Bull. No. 804, 1990). Compare Denis Dunham, *Food Spending and Income*, 37 National Food Rev. 24, 31 (1987) (documenting that Americans in 1983 spent 14.1% of their disposable incomes on food, tobacco, and beverages). In 1983, America's fiercest industrial rivals spent a palpably greater portion of their disposable incomes on food, beverages, and tobacco: West Germans spent 21.8%, while Japanese spent 19.5%. See id. Consumers in the developing world routinely spend roughly half of their far more limited incomes on food. See id. (showing, for example, that Filipinos spent 51.5% of their disposable incomes on food, beverages, and tobacco).

264. See generally Richard A. Posner, *Taxation by Regulation*, 2 Bell J. Econ. & Mgmt. Science 22 (1971) (analyzing cost-of-service ratemaking and other forms of economic regulation as surreptitious methods of public finance).

265. See Marguerite C. Burk, *Consumption Economics: A Multidisciplinary Approach* 87 (Wiley, 1968); Senauer, Asp, and Kinsey, *Food Trends and the Changing Consumer* at 134 (cited in note 82).

266. Only "those households whose incomes and other financial resources . . . are determined to be a substantial limiting factor in permitting them to obtain a more nutritious diet" are eligible to participate in the food stamp program. 7 U.S.C. § 2014(a) (1988). For a flavor of the extraordinarily complex process by which food stamp eligibility is computed, see *Maryland Dep't of Human Resources v. USDA*, 976 F.2d 1462, 1470-73 (4th Cir. 1992) (discussing whether energy assistance should be included in income in determining eligibility); *Hamilton v. Madigan*, 961 F.2d 838, 840-41 (9th Cir. 1992) (discussing housing subsidies); *Shaffer v. Block*, 705 F.2d 805, 810-20 (6th Cir. 1983) (discussing student loans). Compare *Meyer v. Lyng*, 859 F.2d 62, 64 (8th Cir. 1988) ("Congress plainly meant in its definition of 'income' to 'cast the broadest possible net, including all forms of what has been found to constitute income.'" (quoting H.R. Rep. No. 464, 95th Cong., 1st Sess. 24, reprinted in 1977 U.S.C.C.A.N. 1704, 1971, 2001)).

exchange coupons for "hot foods or hot food products ready for immediate consumption."[267] Even after committing a greater proportion of their own labor to personal food preparation (by most accounts a bleak, unfulfilling chore),[268] the poor still cannot liberate themselves from the yoke of food-related privation.

A few statistics will serve to illustrate the ferocity of this class struggle. In 1988, households with incomes below $5,000 spent nearly ten times as much of their incomes on food as did households with incomes over $50,000.[269] Agricultural regulation as food taxation inflicts an ominous toll on children, the most vulnerable, least valued members of a rights-obsessed society gone mad:[270] The presence of children under 18 adds between $700 and $900 to the average American household's food bill, practically all of it in the form of food eaten at home.[271] In light of the way childbearing and childrearing systematically erode women's wages,[272] public policies that make food

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267. 7 U.S.C. § 2012(g) (1988) (defining "food" as "any food or food product for home consumption except alcoholic beverages, tobacco, and hot foods or hot food products ready for immediate consumption"). See also id. § 2016(b) ("[c]oupons issued to eligible households shall be used by them only to purchase food").

268. But see Irma S. Rombauer and Marion Rombauer Becker, *The Joy of Cooking* (Bobbs-Merrill, 1975).

269. See Putnam, *Food Consumption* at 125 (cited in note 263) (showing that the lowest-income households spent 82.1% of their incomes on food, compared with the 8.5% spent by the richest households and the 13.3% spent by the average American household). These data may be exaggerated because food stamps and other sources of income resist accurate reporting. See id.; Senauer, Asp, and Kinsey, *Food Trends and the Changing Consumer* at 130 (cited in note 82). Those who have neglected the tax effect of high food prices may draw a few lessons from French cultural history. From political legends such as Marie Antoinette's apocryphal utterance, "Let them eat cake," to the legendary portrayal of Jean Valjean's plight in Victor Hugo, *Les Misérables* (1862), French culture abounds with an awareness of the disproportionate impact of high food prices and food shortages on the poor.

270. For powerful criticisms of this social tendency, see Myron Lieberman, *Public Education: An Autopsy* 25-29 (Harvard U., 1993); Sherry, 62 U. Chi. L. Rev. at 165 (cited in note 143) (stating that "children . . . have suffered most from the loss of both individual and community responsibility").

271. See Judith Waldrop, *A Lesson in Home Economics*, Am. Demographics 26, 29 (Aug., 1989). In 1987, the average one-earner family with children spent $942 more on food than its childless counterpart ($4455 versus $3513), with all but $28 of that difference being devoted to food eaten at home. The average two-earner family with children spent $697 more than the typical "dinkies"—double-income-no-kids families ($4494 versus $3797). In fact, the two-earner, childrearing family spent nearly $300 *less* on food away from home ($1227 versus $1517). In other words, this family outspent its childless counterpart by $988 on food consumed at home ($3267 versus $2279). See id.

272. See, for example, Victor R. Fuchs, *Sex Differences in Economic Well-Being*, 232 Science 459, 462-63 (1986). The impact is even greater on women who are the only adults in households with children. See id. at 462 (noting that black women are likelier to fit this demographic profile). For a comprehensive economic study of food expenditures by women who work outside the home, see generally Kinsey, 65 Am. J. Agric. Econ. 10 (cited in note 209).

more expensive effectively tax motherhood. Because the farmer enjoys a heftier share of the poor consumer's food dollar than of the rich consumer's food dollar, any governmental action that elevates the price of food unconscionably exacts an extra pound of flesh from the weakest and the youngest members of an obscenely rich society. The high commodity prices so essential to effective implementation of the American Ideology cruelly tax those who can least afford to pay.[273]

The architects of the American land grant system probably never imagined that their masterpiece would eventually symbolize the futility of the American Ideology. Despite its inauspicious pedigree as a special-interest wealth transfer, the land grant system has contributed to the economic and cultural subjugation of producer interests. It has restored the consumer to her role as the rightful economic sovereign of an advanced society. But the land grant community ought not apologize for its contribution to accelerating the beneficial displacement of farmers from the land. From the very beginning, America's land grant universities were charged "to teach such branches of learning as are related to agriculture and the mechanic arts"—"without excluding other scientific and classical studies"—"in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life."[274] Preserving returns on the agricultural sector's human capital is and always was a subordinate goal. In fact, to the extent that producer primacy comes at the expense of the "industrial classes'" broader welfare, promoting farm interests is contrary to the mission of the American land grant university. And so it should be in the light of timeless human experience that measures the worth of a civilization according to its original works of authorship[275] and its new and useful inventions,[276] not according to the economic well-being of its farmers.[277]

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273. This observation about federal milk marketing orders could easily apply to most of the traditional price and income support programs: "dairy regulation currently levies the heaviest taxes against poorer people to subsidize mainly richer farmers." Robert Tempest Masson and Philip M. Eisenstat, *The Pricing Policies and Goals of Federal Milk Order Regulations: Time for Reevaluation*, 23 S.D. L. Rev. 662, 663 (1978).

274. Morrill Land-Grant College Act of 1862, § 4, 7 U.S.C. § 304 (1988).

275. See 17 U.S.C. § 102(a) (Supp. 1991) (extending copyright protection to "original works of authorship," including literary, musical, dramatic, choreographic, pictorial, graphic, sculptural, audiovisual, and architectural works).

276. See 35 U.S.C. § 101 (1988) (extending patent protection to "any new and useful process, machine, manufacture, or composition of matter"). Of the most spectacular applications of patent law in the biotechnological setting, none can be credited to farmers. See, for example, *Diamond v. Chakrabarty*, 447 U.S. 303, 305 (1980) (oil-consuming bacteria); *Ex parte Hibberd*, 227 U.S.P.Q. 443, 443 (1985) (maize with increased levels of free tryptophan); Patent No. 4,736,866 (U.S. Patent Off. April 12, 1988) ("A transgenic non-human eukaryotic animal

The corrosively anti-agrarian nature of the land grant system mocks many a profligate progressive who has given the prophet Marx no honor among his own people. Sophisticated, cultured graduates of American land grant universities have proved that revolution is indeed a dinner party, that writing an essay, or painting a picture, or doing embroidery celebrates the deliverance of ordinary men and women from the realm of agricultural necessity into the realm of industrial leisure.[278] Unwittingly, agricultural scientists have sparked "the true revolution [ ] of the twentieth century"—"the liberation of man from the limitations of the natural world."[279] For these achievements of the post-agrarian society are the monuments that celebrate the lives of men and women who have been emancipated from the acres where the grapes of wrath are grown. Glory, glory, hallelujah.[280]

VI. THE AGROECOLOGICAL OPIUM OF THE MASSES

The specter of the American Ideology hovers still over the legal landscape of the United States.[281] Today, the spiritual heirs of the Grange and the Nonpartisan League rally behind the banner of "sustainable agriculture." This movement's other accomplishments notwithstanding, sustainability advocates deserve praise for achieving the greatest rhetorical coup since certain partisans in the abortion debate fashioned the phrase "pro-life." There are as many self-described champions of "unsustainable agriculture" as there are overt supporters of the "pro-death" crusade. Unless we expect to feed

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whose germ cells and somatic cells contain an activated oncogene sequence introduced into the animal . . . at an embryonic stage"—that is, the cancer-prone "Harvard mouse"). See generally U.S. Congress, Office of Technology Assessment, *New Developments in Biotechnology: Patenting Life* 115-24 (1989) (predicting that the widespread awarding of animal patents, generally speaking, will reinforce the already capital-intensive nature of various livestock sectors).

277. The dead but not interred Confederate States of America begged to differ. See the words to the song *Dixie*: "How I wish I was in the land of cotton, / Old times there are not forgotten."

278. But see Mao Tse-Tung, in Stuart R. Schram, ed., *Quotations from Chairman Mao Tse-Tung* 6-7 (Bantam, 1967) ("A revolution is not a dinner party, or writing an essay, or painting a picture, or doing embroidery; it cannot be so refined, so leisurely and gentle, so temperate, kind, courteous, restrained and magnanimous. A revolution is an insurrection, an act of violence by which one class overthrows another").

279. Ruttan, 7 Interdisciplinary Science Reviews at 170 (cited in note 188).

280. Compare Julia Ward Howe, *The Battle Hymn of the Republic* (ca. 1861).

281. Compare Marx and Engels, *Manifesto of the Communist Party* at 335 (cited in note 55) (stating that "[a] spectre is haunting Europe—the spectre of Communism").

ourselves on rhetoric alone, however, we must strive for redemption without romance.[282]

Virtually every adherent of sustainable agriculture emphasizes the land on which we farm, the land that feeds us.[283] Thus contemporary admirers of Aldo Leopold[284] celebrate the gift of good land[285] and solemnly admonish us all that our patterns of consumption must meet the expectations of the land.[286] The new environmental awareness supposedly marks a paradigmatic shift from a mechanical model of agriculture to an ecological model.[287] All of this would be far more credible if the rhetoric of sustainability did not so transparently disguise the new agrarians' willingness to sacrifice environmental objectives whenever they conflict with the American Ideology of protecting incumbent farmers at all costs.

The reaction to the latest agricultural innovation to alter the American dairy market, recombinant somatotropin ("rbST"), confirms where the agrarians' truest loyalty lies. rbST—or recombinant bovine growth hormone ("rBGH"), as the drug's opponents prefer to call it—represents a rather modest biotechnological advance.[288] Because it is merely the synthetic form of a naturally occurring hormone that stimulates milk production, rbST is a rather crude extension of the scientific revolution launched by Friedrich Wöhler's synthesis of urea from ammonium cyanate in 1828.[289] In 1937, Russian scientists correctly hypothesized that some chemical produced by the anterior

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282. See Chen, 48 Vand. L. Rev. (forthcoming, Oct. 1995) (cited in note 85) (warning against the propensity to heed the romantic tuggings of "stewardship" and "dominion" rhetoric in agricultural writing).

283. See generally John Fraser Hart, *The Land That Feeds Us* (Norton, 1991).

284. See Aldo Leopold, *A Sand County Almanac and Sketches Here and There* 201-26 (Oxford U., 1949) (outlining "The Land Ethic"). See generally James P. Karp, *Aldo Leopold's Land Ethic: Is an Ecological Conscience Evolving in Land Development Law?*, 19 Envir. L. 737 (1989) (exploring the impact of Leopold's philosophy on the law).

285. See Wendell Berry, *The Gift of Good Land* (North Point, 1981); Eric T. Freyfogle, *The Dilemma of Wendell Berry*, 1994 U. Ill. L. Rev. 363, 363-64 (lauding Berry as one of the prophets of the late twentieth century).

286. See Wes Jackson, Wendell Berry, and Bruce Colman, eds., *Meeting the Expectations of the Land: Essays in Sustainable Agriculture and Stewardship* (North Point, 1984).

287. See Baird J. Callicott, *The Metaphysical Transition in Farming: From the Newtonian-Mechanical to the Eltonian-Ecological*, 3 J. Agric. Ethics 36, 47 (1990); John B. Cobb, *Theology, Perception, and Agriculture*, in Gordon K. Douglass, ed., *Agricultural Sustainability in a Changing World Order* 205, 210 (Westview, 1984) (describing a shift from a mechanical to an ecological model as necessary for sustainable agriculture and a sustainable society in general).

288. For a comprehensive biological and economic study of rbST, see U.S. Congress, Office of Technology Assessment, *U.S. Dairy Industry at a Crossroad: Biotechnology and Policy Choices* 3-14, 31-48 (1991) ("OTA Dairy Report").

289. See *Urea*, 12 Encyclopædia Britannica 203 (Encyclopædia Britannica, Inc., 15th ed. 1989). By proving that organic chemicals could be synthesized, Wöhler's achievement may be regarded as the first act in modern organic chemistry.

pituitary gland controlled bovine lactation.[290] American scientists eventually concluded that bST governed the efficiency with which cows absorbed nutrients and thereby produced milk.[291] By extracting bST-stimulating genes from bovine pituitary glands and splicing them into rapidly reproducing *E. coli* bacteria, bioengineers have facilitated the large-scale, economically feasible synthesis of rbST.[292] In 1982, the first trials demonstrated that rbST could be used to boost milk production in a safe, cost-effective fashion.[293] The product's entry into the American dairy market was long expected; threatened dairy farmers had ample time to adjust to a market that would inevitably change. No other recent legal event in American agriculture, however, has provoked as much agrarian anger as the Food and Drug Administration's ("FDA") decision to permit the use of rbST in milk production.[294]

Fully expecting the FDA to approve rbST sometime in late 1993, Congress preemptively imposed a 90-day moratorium on rbST sales after the date of any such approval.[295] A concurrent 90-day delay in an otherwise scheduled reduction in federal milk price supports cost taxpayers an additional $5 million in milk subsidies.[296] Given the extraordinarily income-inelastic nature of milk demand,[297] the congressional resistance to the expected decrease in milk prices disproportionately hurt the poorest, youngest consumers of milk. Legislators representing Wisconsin and Vermont—two states whose dairy farmers expected to lose the most from widespread adoption of

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290. See G.J. Asimov and N.K. Krouze, *The Lactogenic Preparations from the Anterior Pituitary and the Increase of Milk Yield in Cows*, 20 J. Dairy Sci. 289 (1937).

291. See D.E. Bauman and W.B. Currie, *Partitioning of Nutrients During Pregnancy and Lactation: A Review of Mechanisms Involving Homeostasis and Homeorhesis*, 63 J. Dairy Sci. 1514, 1514 (1980). See generally D.E. Bauman, et al., *Sources of Variation and Prospects for Improvement of Productive Efficiency in the Dairy Cow: A Review*, 60 J. Animal Sci. 583 (1985); J.A. Bines and I.C. Hart, *Metabolic Limits to Milk Production, Especially Roles of Growth Hormone and Insulin*, 65 J. Dairy Sci. 1375 (1982).

292. See Thomas A. Stucker, Richard F. Fallert, and Kathryn L. Lipton, *Bovine Growth Hormone Brings Progress to Dairy Farms*, 35 National Food Rev. 12, 12 (Fall 1986).

293. See D.E. Bauman, et al., *Effect of Recombinantly Derived Bovine Growth Hormone (bGH) on Lactational Performance of High Yielding Dairy Cows*, 65 J. Dairy Sci. 121 (1982).

294. See Approval of Sterile Sometribove Zinc Suspension (Posilac®), 58 Fed. Reg. 59,946 (Nov. 12, 1993), to be codified at 21 C.F.R. §§ 51-.600, 522.2112. See also 21 U.S.C. § 360b (Supp. 1994) (directing the FDA to approve and license new animal drugs).

295. Pub. L. No. 103-66, § 1105(c)(2), 107 Stat. 312, 317 (Aug. 10, 1993) (set forth as a note to 7 U.S.C. § 1446e). See also H.R. Conf. Rep. 103-213, 103d Cong., 1st Sess. (1993); H.R. Rep. No. 103-111, 103d Cong., 1st Sess. (1993), reprinted in 1993 U.S.C.C.A.N. 378.

296. See 139 Cong. Rec. S10,760 (Aug. 6, 1993) (statement of Sen. Hatch).

297. See Blaylock and Smallwood, *U.S. Demand for Food* at 13 (cited in note 203) (stating that the income elasticity of demand for milk and cream is 0.02).

rbST—proposed even more ambitious legislation to extend the rbST moratorium, to require the labeling of milk and milk products from rbST-treated cows, and to reduce price support for dairy producers who inject rbST into their cows.[298] Several states, especially in New England and the upper Midwest, have authorized voluntary labeling schemes.[299] A few have considered mandatory labeling statutes. Throughout the spring and summer of 1994, legislative activity was so intense that several sustainable agriculture groups were able to report "rBGH news of the week."

Current American policy regarding rbST takes the form of piecemeal second-guessing by State legislatures of a scientific judgment made by the FDA as the nation's legally designated food and drug safety expert. But why? Animal health as such is not a substantial concern. To the extent that rbST impairs treated cows' reproductive performance[300] or "adversely affect[s] the processing characteristics of milk,"[301] rational farmers will weigh the technology's benefits against its fully internalized costs. Moreover, the very business of dairy production is incompatible with the notion of animal rights. Milk is meat, for every dairy cow put into production bears calves destined to become veal. Every cow eventually becomes a mound of ground beef.[302] *Homo sapiens* does not build cemeteries for pet dairy cattle. Perhaps she should, but she does not.[303]

No, something else is at work. The pungent odor of producer protectionism permeates the legislative air.

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298. See, for example, 139 Cong. Rec. S4254-02, S4323-25 (April 1, 1993) (statement of Sen. Feingold, D-Wis.); 139 Cong. Rec. H2127 (April 28, 1993) (statement of Rep. Obey, D-Wis.). Compare 139 Cong. Rec. S8842-01 (July 15, 1993) (statement of Sen. Feingold, D-Wis.) (urging a one-year moratorium on rbST use in the United States in response to a seven-year moratorium imposed by the European Community).

299. See, for example, Act of May 10, 1994, ch. 632, S.F. No. 2913, Art. 2, §§ 13-14 (Minn.) (amending Minn. Stat. Ann. §§ 32.103, 151.01, 151.15, 151.25). The FDA issued interim guidance on voluntary labeling of milk and milk products from cows not treated with rbST. See 59 Fed. Reg. 6279-04 (Feb. 10, 1994).

300. See generally Emilio Esteban, et al., *Reproductive Performance in High Producing Dairy Cows Treated with Recombinant Bovine Somatotropin*, 77 J. Dairy Sci. 3371 (1994)

301. Kerst Stelwagen, et al., *Effect of Milking Frequency and Somatotropin on the Activity of Plasminogen Activator, Plasminogen, and Plasmin in Bovine Milk*, 77 J. Dairy Sci. 3577, 3577-78 (1994).

302. See, for example, 7 U.S.C. § 1446(d)(3) (1988) (authorizing the termination of dairy cattle for the purpose of reducing milk supplies and increasing milk prices). Compare Hart, *The Land That Feeds Us* at 192 (cited in note 283) (quoting a farmer: "I start milking the cows when they are two years old. . . . After that the cows go to make hamburger").

303. Compare Steven M. Wise, *Of Farm Animals and Justice*, 3 Pace Envir. L. Rev. 191, 220 (1986) (arguing that American farmers' prized lifestyle and "livelihood may be predicated on the [urban] ignorance they deride, for [if] enough city dwellers learn what is really happening on the farm, the industry could be shaken").

rbST does not endanger human health. Cow's milk naturally contains bovine somatotropin. There is no significant compositional difference between Milk Classic from untreated cows and New Milk from treated cows.[304] Thanks to the hormone's unique three-dimensional shape, neither natural nor synthetic bST can bind itself to human cell surfaces.[305] Although the Office of Technology Assessment initially thought that rbST use boosts levels of insulin-like growth factor 1 ("IGF-1") in milk,[306] more recent studies by the FDA and the Food and Agricultural Organization of the United Nations have concluded that rbST supplementation of cows does not affect the IGF-1 content of milk.[307] In any event, the total amount of IGF-1 in a liter of milk approximates the amount in the saliva swallowed daily by an adult.[308] Accordingly, any IGF-1 that enters the bloodstream after surviving digestion "is insignificant compared to the daily endogenous human exposure."[309]

rbST's opponents have also argued that the hormone poses an indirect threat to human health by increasing the incidence of mastitis in treated cows, which would lead to increased use of antibiotics by dairy farmers.[310] (Never mind the mountain of scientific data showing "that treatment with BST [has] had no effects of biological importance on mastitis-related variables").[311] The agrarians have never explained

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304. The presence of a few extra amino acids on the end of the recombinant bST molecule has no impact on the hormone's biological activity. See Jean-François Hocquette, et al., *The Human Liver Growth Hormone Receptor*, 125 Endocrinology 2167, 2172 (1989); Judith C. Juskevich and C. Greg Guyer, *Bovine Growth Hormone: Human Food Safety Evaluation*, 249 Science 875, 877 (1990); M. Wallis, *The Molecular Evolution of Pituitary Hormones*, 50 Biol. Rev. 35, 62-63, 67-68 (1975).

305. See sources cited in note 304.

306. See OTA Dairy Report at 4, 40 (cited in note 288). For a discussion of the role of IGF-1 in bovine lactation, see B. K. Sharma, et al., *Expression of Insulin-like Growth Factor-1 in Cows at Different Stages of Lactation and in Late Lactation Cows Treated with Somatotropin*, 77 J. Dairy Sci. 2232 (1994).

307. See Food & Agric. Org., United Nations, *Bovine Somatotropins* 113-42 (1993) (U.N. Doc. No. 41/5); Letter from Richard H. Teske to Samuel S. Epstein 1 (Mar. 7, 1994) ("Teske Letter") (copy on file with the Author) (stating that "the [FDA] has received and reviewed several more comprehensive studies [that] have demonstrated that the IGF-1 content of milk is *not* altered by BST supplementation"). But compare T.B. Mepham, et al., *Safety of Milk from Cows Treated with Bovine Somatotropin*, 344 Lancet 1445, 1446 (1994) (arguing that rbST treatment does increase IGF-1 levels in milk, but conceding that "IGF1 is unlikely to have systematic effects" on human health).

308. See OTA Dairy Report at 4, 40 (cited in note 288).

309. Teske Letter at 2 (cited in note 307).

310. 139 Cong. Rec. E888 (April 1, 1993) (statement of Rep. Sanders).

311. D.E. Bauman, et al., *Somatotropin (BST): International Dairy Federation Technical Report*, 293 Int'l Dairy Fed. Rep. 2, 4 (1994). See also, for example, D.G. McClary, et al., *The Effects of a Sustained-Release Recombinant Bovine Somatotropin (Somidobove) on Udder Health*

why stringent enforcement of rules against marketing milk from diseased cows would fail to address any mastitis problem that did exist.[312] Nor have rbST's opponents explained why Congress and state legislatures should be content merely to label a product that poses such a dire threat to the public health.[313] One member of Congress who opposed the rbST approval inadvertently stated his constituents' true priorities on this issue: "BGH not only threatens the survival of the family farm—it also is a threat to public health."[314] Farmers come first; consumers are, at best, an afterthought.[315]

The political circus surrounding the approval of rbST has obscured the drug's potentially beneficial environmental impact. The misleading description of rbST's sole purpose as "enhanc[ing] the production of a product that is already in surplus"[316] detracts attention from the commodity that is truly in surplus: dairy cows. By increasing each cow's milk output in a market where demand for milk will likely remain relatively constant, rbST reduces the total number of cows in production. Although a treated cow's greater milk output

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for a Full Lactation, 77 J. Dairy Sci. 2261, 2261 (1994) (stating that "[n]o evidence existed of an association between somidobove administration and the incidence or duration of clinical mastitis"); N. Craven, *Milk Production and Mastitis Susceptibility: Genetic Relationships and Influence of Bovine Somatotropin Treatment*, in J. Espinasse, ed., *Mammites des Vaches Laitieres* 55 (Société Française de Buiatrie, 1991); McClary, et al., 77 J. Dairy Sci. at 2264, 2267 (discussing subclinical mastitis); D.A. Moore and L. J. Hutchinson, *BST and Animal Health* in M.C. Hallberg, ed., *Bovine Somatotropin and Emerging Issues: An Assessment* 99 (Westview, 1992); R.H. Phipps, *A Review of the Influence of Somatotropin on Health, Reproduction, and Welfare in Lactating Dairy Cows*, in K. Sejrsen, et al., eds., *Use of Somatotropin in Livestock Production* 88 (1989); F. Schmitz, R.W. Everett, and D.M. Galton, *Milk and Somatic Cell Count Response to Sometribove (Recombinant Methionyl Bovine Somatotropin) in Five New York Field Trial Herds*, 76 J. Dairy Sci. 164 (1993) (Supp. 1) (abstract); J.W. Thomas, et al., *Responses by Lactating Cows in Commercial Dairy Herds to Recombinant Bovine Somatotropin*, 74 J. Dairy Sci. 945 (1991); T.C. White, et al., *Clinical Mastitis in Cows Treated with Sometribove (Recombinant Bovine Somatotropin) and Its Relationship to Milk Yield*, 77 J. Dairy Sci. 2249 (1994), modified by errata at 77 J. Dairy Sci. 3810 (1994); Henry J. Ceelen, *Bovine Somatotropin and Cow Health—What Are the Facts?*, 36 Canadian Veterinary J. 25, 25 (1995); E.P. Cunningham, *The Use of Bovine Somatotropin in Milk Production—A Review*, 47 Irish Veterinary J. 207, 209 (1994); E.P. Stanisiewski, et al., *Productin Performance of Dairy Cattle Administered Recombinantly Derived Bovine Somatotropin (USAN, Somavubove) Daily: A Dose Range Study*, 11 Domestic Animal Endocrinology 239, 248-49 (1994).

312. See 21 C.F.R. pt. 131 (1994) (requiring milk and cream products to come from "healthy cows"); id. pt. 133 (requiring the same for milk in cheeses and related cheese products). Compare id. pt. 556 (setting the maximum levels of new animal drugs that are tolerated in food); id. § 1240.61 (requiring the pasteurization of milk sold in interstate commerce); 50 Fed. Reg. 2304 (Jan. 16, 1985) (outlining the FDA, USDA, and EPA's joint responsibility for monitoring and controlling drug and pesticide residues in food).

313. See OTA Dairy Report, at 6, 44 (cited in note 288).

314. 139 Cong. Rec. E888 (April 1, 1993) (statement of Rep. Sanders).

315. Compare 136 Cong. Rec. H310-01 (Feb. 7, 1990) (statement of Rep. Smith) (criticizing the unknown impact of rbST use on "the economic stability of . . . smaller family-owned farms" before contemplating the hormone's effect on "consumer trust in dairy products").

316. 139 Cong. Rec. E888-89 (April 1, 1993) (statement of Rep. Sanders).

increases her total energy requirement, rbST improves the cow's efficiency in converting nutrients to milk and reduces the amount of nutrition needed to keep the cow alive.[317] In other words, treating cows with rbST buys more milk production without proportionally increasing the bovine demand for scarce and environmentally costly nutrients.[318] Put plainly, rbST and other advanced dairy technology "allow for the production of milk with a lower resource input."[319] Fewer cows mean fewer methane emissions,[320] less manure and urine,[321] less acreage dedicated to feed for dairy cows, less water committed to the quenching of bovine thirst.[322] rbST's "green" effect foreshadows the promise of genetically engineered, pest-resistant plant varieties that will reduce farmers' reliance on chemical pesticides.[323]

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317. See National Research Council, *Metabolic Modifiers: Effects on the Nutrient Requirements of Food-Producing Animals* 26 (National Academy, 1994); Dale E. Bauman, *Bovine Somatotropin: Review of an Emerging Animal Technology*, 75 J. Dairy Sci. 3432, 3436-37 (1992).

318. See W. Chalupa and D.T. Galligan, *Nutritional Implications of Somatotropin for Lactating Cows*, 72 J. Dairy Sci. 2510 (1989). Compare J.A. Speicher, *Production Responses of Cows to Recombinantly Derived Bovine Somatotrophin and to Frequency of Milking*, 77 J. Dairy Science 2509 (1994).

319. Dale E. Bauman, *Frontiers of Improved Productive Efficiency by Dairy Cows*, in *Proceedings of the Governor's Conference on Agricultural Science and Technology* 345, 347 (Albany, N.Y., Nov. 9-10, 1993).

320. See R.J. Cicerone and R.S. Oremland, *Biogeochemical Aspects of Atmospheric Methane*, 2 Global Biogeochemical Cycles 299 (1988) (attributing a fifth of the world's methane emissions to animal rumination and defecation); J. Lerner, et al., *Methane Emissions from Animals: A Global Resolution Data Base*, 2 Global Biogeochemical Cycles 139 (1988) (noting that domestic cattle account for 15% of the world's methane emissions). See generally M.L. Parry, *Climate Change And World Agriculture* (Earthscan, 1990); J. Reilly & R. Bucklin, *Climate Change and Agriculture*, in *Agriculture Situation And Outlook Report* 43 (USDA, Agric. Research Serv. Pub. No. WAS-55, 1989).

321. See OTA Dairy Report at 35 (cited in note 288) (projecting that full rbST use could reduce bovine manure by 6 billion kilograms and bovine urine by 8 billion liters each year).

322. See generally D. E. Johnson, G. M. Ward, and J. Torrent, *The Environmental Impact of Bovine Somatotropin Use in Dairy Cattle*, 21 J. Envir. Quality 157 (1992) (reporting the substantial savings of irrigation water, soil, and fossil fuels that would occur if rbST is adopted widely). This final factor looms ever larger because the arid West is America's fastest growing dairy production region. California alone boosted milk output by 1.56 million hundredweights between July 1993 and July 1994 (a 7.8% increase), and it now leads all states in milk production. See *Milk Production in Summer Doldrums*, Dairy Herd Mgmt. at 76 (Sept. 1994). Wisconsin's protest to the contrary notwithstanding, see Wis. Stat. § 341.13(a) (1993) (requiring the words "America's Dairyland" to be displayed on Wisconsin's automotive license plates), the Golden State is now America's Dairyland.

323. See Northrup King Co. & Ciba-Geigy Corp., 60 Fed. Reg. 8658 (EPA, Feb. 15, 1995) (authorizing experimental planting of corn that has been genetically altered to produce the plant pesticide *Bacillus-thuringiensis* subsp. *Kurstaki* Cry IA(b) insect control protein), amended 60 Fed. Reg. 13,984 (March 15, 1995); Karen Schmidt, *Genetic Engineering Yields First Pest-Resistant Seeds*, 265 Science 739 (1994).

According to Dale E. Bauman, one of America's foremost dairy technology experts, rbST adoption by the entire American dairy industry would help the environment by effecting the following annual reductions in inputs and waste products:

Inputs:

- The food energy contained in 2.5 billion kilograms of corn
- The protein contained in 56 million kilograms of soybean oil meal

Waste products:

- 6 billion kilograms of bovine manure
- 8 billion liters of bovine urine
- 80 million kilograms of urinary nitrogen
- 80 billion liters of methane.[324]

If every American dairy farmer deployed rbST, the industry's reduced demand for feed would equal 0.62 percent of the corn that Americans fed to farm animals in 1988.[325] America's population of dairy cows, 10 million strong in 1988, would also decline by more than a tenth.[326] Imagine the potential environmental benefits of being able to quench America's thirst for milk with a million fewer cows.

But fewer dairy cows also mean fewer dairy farmers. "With each cow producing more milk, the nation's milk needs can be supplied with fewer cows, less land, and fewer people in the dairy industry."[327] Furthermore, reducing the number of cows per farm increases each farm's relative investment in nonbiological inputs. Softening the harsh environmental impact of dairy production through this meek drug does come at the expense of a few dairy farmers. Confronted with a choice between a cleaner environment and reduced employment prospects for incumbent dairy farmers, sustainability advocates

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324. Bauman, 75 J. Dairy Sci. at 3447 (cited in note 317) (table 3). Bauman's computations are based on the United States' level of milk production in 1988—namely, 66 billion kilograms. See id.; R. F. Fallert and C. B. Liebrand, *Economic Implications of Bovine Somatotropin for the United States Dairy Industry*, 74 J. Dairy Sci. 12 (Supp. 2 1991).

325. Total feed consumed by American livestock and poultry in 1988 was equivalent to 445 million tons of corn, or roughly 404 billion kilograms. See *Agricultural Statistics* at 54 (cited in note 28). Bauman's estimate of 2.5 billion kilograms in reduced demand for corn equivalent, as reported in the text and note 324, is roughly 0.62% of the total.

326. Bauman, 75 J. Dairy Sci. at 3447 (cited in note 317).

327. Daniel W. Bromley, *Technology, Technical Change, and Public Policy: The Need for Collective Decisions*, Choices (2d Q. 1991).

and their agrarian fellow travelers have unequivocally sided with the farmers.

Regardless of the outcome of today's milk wars, the biotechnological revolution in dairy production will surely continue.[328] Already, bioengineers have successfully used nuclear transplantation to clone transgenic[329] calves.[330] Although "the lack of knowledge about the relationship between the expression of a specific gene and the physiological consequences" of that gene currently blocks the production of "transgenic cattle possessing traits of economic value,"[331] cows that have been transgenically altered to produce high levels of natural bST could eventually supplant rbST use altogether.[332] Barring changes to current law, bioengineered Bossie will surely be patentable.[333] The potential shock to the farm economy will undoubtedly draw Congress even further into the battle over biotechnology.[334]

O brave moo world, that has such creatures in it![335]

The tempest over rbST represents an ill omen of things yet to come, the harbinger of a far greater war against consumer welfare

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328. See generally OTA Dairy Report at 51-69 (cited in note 288) (describing emerging technologies in the dairy industry).

329. "Transgenic animals are those whose DNA, or hereditary material, has been augmented by adding DNA from a source other than parental germplasm, usually from different animals or from humans." U.S. Congress, Office of Technology Assessment, *New Developments in Biotechnology: Patenting Life* at 12-13 (cited in note 276).

330. See K.R. Bondioli, M.E. Westhusin and C.R. Looney, *Production of Identical Bovine Offspring by Nuclear Transfer*, 33 Theriogenology 165 (1990); J.M. Massey, *Animal Production Industry in the Year 2000*, in W. Hansel and Barbara J. Weir, eds., *Genetic Engineering of Animals* 199 (1990); R.S. Prather and N.L. First, *Cloning Embryos by Nuclear Transfer*, in Hansel and Weir, eds., *Genetic Engineering of Animals* at 125.

331. OTA Dairy Report at 59 (cited in note 288).

332. Id. at 6.

333. "The Patent and Trademark Office now considers nonnaturally occurring nonhuman multicellular living organisms, including animals, to be patentable subject matter under 35 U.S.C. § 101." Policy on Patenting of Animals, 1077 Off. Gaz. Pat. Off. 24, 24 (1987). See also *Diamond v. Chakrabarty*, 447 U.S. 303, 318 (1980) (holding that a "live, human-made microorganism is patentable subject matter"); *Ex parte Allen*, 2 U.S.P.Q.2d 1425, 1427 (1987) (holding that "polyploid oysters" as "non-naturally occurring manufactures or compositions of matter" are "patentable subject matter"), aff'd without opinion, 846 F.2d 77 (Fed. Cir. 1988); Patent No. 4,736,866 (U.S. Patent Off., April 12, 1988) (granting a patent on a "transgenic non-human eukaryotic animal whose germ cells and somatic cells contain an activated oncogene sequence introduced into the animal . . . at an embryonic stage").

334. See generally Report on the Activities of the Committee on the Judiciary of the House of Representatives, H.R. Rep. No. 1015, 101st Cong., 2d Sess. 79-80 (1991) (tracing the history of legislative proposals to exempt farmers from compliance with patents on transgenic animals).

335. Compare William Shakespeare, *The Tempest*, Act V, sc. 1, *ll.* 213-14, in Louis B. Wright and Virginia A. Lamar, eds., (Washington Square, 1961) ("O brave new world / that has such people in't!"). See generally Aldous Huxley, *Brave New World* (Harper, 1946) (describing a future human society characterized by eugenics and government-directed manipulation of consumer preferences).

and environmental integrity. An overwhelming body of scientific evidence attests to the safety of rbST use. The prospect of reducing environmental damage while continuing to satisfy the public's demand for milk would tantalize any genuine friend of Mother Earth. Every legislative proposal to limit the hormone's use therefore has a normatively pernicious objective: permitting a subclass of Luddite farmers in the United States to continue resisting cost-reducing, resource-conserving technology simply for tradition's sake.[336] Stripped of its fraudulent claims to ethical and medical integrity, the campaign against rbST is a battle waged by economically endangered entities against the rest of society.

Seduced by an agrarian literary tradition stretching from *Little Bo Peep* to *Little House on the Prairie*,[337] we Americans have forgotten an ugly but essential truth about production agriculture: Farming is not an environmentally benign activity. Compelling the earth to yield only such fruits as will sate human hunger and slake human thirst necessarily upsets the balance of nature that would prevail in the absence of human intervention. In one of the richest ironies in this enigmatic corner of American law and politics, the same farmers who opportunistically designate themselves the divinely foreordained stewards of the land ordinarily frame the legal "right to farm" as a blanket exemption from nuisance law, a mild and basic common law tool for protecting the public against environmentally destructive uses of land. In each of the fifty states that exempt farmers from liability for their nuisances,[338] agricultural pollution that limits every other conceivable use of increasingly scarce land is tolerated as the inalienable foundation of the "right to farm."

Agrarian tradition routinely describes farming as a labor of love. It may be impossible to contest this proposition without smelling the stench of cow manure every minute of the waking day, with-

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336. The Luddites protested automation, industrialization, and mechanization in nineteenth-century England by breaking machines. See generally Malcolm I. Thomis, *The Luddites: Machine-Breaking in Regency England* (David & Charles/Anchor Books, 1970).

337. See, for example, Willard W. Cochrane and C. Ford Runge, *Reforming Farm Policy: Toward a National Agenda* 21 (Iowa State U., 1992) (criticizing the popular agrarian image of "a 'Little House on the Prairie' " as an unrealistic "soft-focus view of rural life"). Compare Laura Ingalls Wilder, *Little House on the Prairie* (Harper, 1953).

338. See, for example, Ga. Code Ann. § 41-1-7 (1994); N.C. Gen. Stat. § 106-701(d) (1994) (stating that ordinances which deem any agricultural operation a nuisance are invalid); Tenn. Code Ann. § 43-26-103 (1993) (stating that farms are presumed not to be nuisances). See generally Neil D. Hamilton, *Right-to-Farm Laws Revisited: Judicial Consideration of Agricultural Nuisance Protections*, 14 J. Agric. Tax. & L. 195 (1992). Compare Neil D. Hamilton and David Bolte, *Nuisance Law and Livestock Production in the United States: A Fifty-State Analysis*, 10 J. Agric. Tax. & L. 99, 101, 130 (1988) (noting the presence of right-to-farm legislation in every state except South Dakota as of 1988).

out walking in trousers drenched with the blood of slaughtered hogs. But this much is within the reach of any urbanite willing to overcome the dual handicap of agricultural illiteracy and bucolic sentimentalism: the agrarian dogma of producer primacy rests solely on a love of labor. The sustainability movement's commitment to distributive justice will appear far more sincere when its adherents treat consumer welfare as a legitimate component of societal interest in agriculture and not as an inconvenient detail in a futile campaign to maximize demand for the labor of the farm sector's entrepreneurial class.

VII. THE CONSUMERIST MANIFESTO

We may nevertheless take comfort in the decline of agriculture as an autonomous enterprise. At the height of its arrogance, the American Ideology protests that "[i]t is demeaning to treat" agriculture—supposedly "the very basis for civilization"[339]—"like any other consumer industry churning out . . . toilet seats or pimple cream to meet the fickle fluctuations of consumer demand."[340] If industrial society is to harbor any hope of feeding today's burgeoning populations before they explode into tomorrow's famines and food riots, it must crush the American Ideology. Only by subjugating agriculture to the fickle fluctuations of consumer demand can we discipline agriculture and relegate it to its properly unprivileged status as one of many livelihoods in a diversified civilization. Farming is only a business. It is not a way of life.[341]

Civilization begins where agriculture ends. In the first instance, society exists so that its members can secure food, fiber, and fuel. But any society that aspires to a level of meaning beyond mere subsistence cannot and should not guarantee a fixed share of its riches to the providers of basic commodities. Grave "spiritual danger[ ]" surely lurks in the urban suppositions that "breakfast

339. But see Graeme O'Neill, *Cemetery Reveals Complex Aboriginal Society*, 264 Science 1403, 1403 (1994) (challenging the traditional belief that a complex civilization can develop only after agriculture replaces foraging as a community's primary method for securing food).

340. William Aiken, *The Goals of Agriculture*, in Richard Haynes and Ray Lanier, eds., *Agriculture, Change, and Human Values: Proceedings of a Multidisciplinary Conference* 29, 51-52 (U. of Fla., 1982).

341. Compare Paarlberg, *American Farm Policy* at 5 (cited in note 74) (observing that the traditional agricultural creed has stated that "[f]arming is not only a business but a way of life").

comes from the grocery" and that "heat comes from the furnace."[342] By the same token, however, the grocery and the furnace as implements of modern society are precisely the advances that enable some of us to praise the pristine wilderness and to preach values such as self-restraint, deferred or forgone gratification, respect for all that transcends the immediate. Without efficient retail delivery of food, fiber, and fuel, we would all be forced to commit more hours, days, and years—arguably the most frustratingly delimited commodities in this world of many limits—to the base, brutal project of mere survival.

As the children of a Western moral tradition "that views material concern as a defect in human nature," Americans have slipped into "a romantic view of man's relationship to the natural world."[343] We have swallowed the fallacy "that technology alienates man from both the natural world and from the natural community."[344] Perhaps we should ask "the Taiwanese farmer [who] harvests a yield of 6 tonnes of rice from his 1 hectare" by using advanced agricultural technology whether he "feels a greater alienation than his father who realized less than 2 tonnes of rice from his efforts."[345] In the harshly competitive markets of the twenty-first century, the United States cannot afford an American Ideology that condemns "continued declines in the real costs of production."[346] Nor can the rest of the world, not when unprecedented rates of population growth outstrip the productive capacity of traditional agricultural systems.[347]

During Karl Marx's lifetime, the preponderance of Europe's population belonged in an economically forlorn proletarian class distributed not only in the cities but also throughout the countryside. As "[t]he production of *things* has become steadily cheaper" in industrial societies, "the farmer's share in employment" necessarily falls "towards nil."[348] Today's bourgeoisie, comprised of the "shufflers of paper" who are now "[t]he very soldiers in capitalist democracies,"[349] outnumbers the proletariat and overpowers the aristocracy. This

342. Leopold, *A Sand County Almanac* at 6 (cited in note 284).

343. Ruttan, 7 Interdisciplinary Science Reviews at 175 (cited in note 188).

344. Id.

345. Id.

346. Ruttan, 231 Science at 781 (cited in note 196).

347. See Ruttan, 10 Ecol. Econ. at 212 (cited in note 138); Vernon W. Ruttan, *Sustainability Is Not Enough*, 3 Am. J. Alternative Agric. 128, 129 (1988) (noting that a 0.5% to 1.0% annual increase in agricultural productivity has not not kept pace with a 1.0% to 2.0% annual increase in global demand and a 3.0% to 5.0% annual increase in demand in certain less developed and newly industrializing countries).

348. Donald McCloskey, *Bourgeois Virtue*, 63 Am. Scholar 177, 178 (1994).

349. Id. at 177.

cultural environment demands a new ethic in agriculture, an industrialist ethic. The times cry out for "a new Populism in our lifetime,"[350] not the fraudulent populism of the past, the impassioned but perverse plea for producer primacy. We need a bourgeois populism, a populism that reflects the values of the middle-class masses whose consumer expenditures and tax payments have financed the American Dream for farmers and factory workers alike.

The American Ideology has elided the harsh effects of financing farm income support through higher food prices. The same instinct that motivates states to eschew retail sales taxes on unprepared food should guide broader agricultural policy.[351] The same inelasticity of demand that curbs income-driven growth in demand for food exposes the poorest consumers to a grossly disproportionate share of the misery that accompanies high food prices. In light of such palpable injustice, I say, "Flush the farm": One man's subsidy is another woman's regressive tax.[352] For countenancing the indiscriminate taxation of consumers to benefit the privileged farming class, the American Ideologue is an enemy of the people.

The simple expedient of treating agriculture like any other activity—no more virtuous or villainous[353]—promises to restore some

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350. But see Ingolf Vogeler, *The Myth of the Family Farm: Agribusiness Dominance of U.S. Agriculture* at vii (Westview, 1981) (choosing this slogan as the dedication for a paean to the American family farmer).

351. See, for example, Ariz. Rev. Stat. Ann. § 42-1382 (West, 1991) (giving tax exemption for food sales); Cal. Const., Art. XIII, § 34 (West Supp., 1995) (same); Cal. Rev. & Tax. Code § 6359 (West, 1987) (same); 1990 Colo. Rev. Stat. Ann. § 39-26-114(1)(a)(XVI) (West, 1990); Mich. Comp. L. Ann. § 205.94d(1) (West, 1986) (same).

352. *Cohen v. California*, 403 U.S. 15, 25 (1971) (observing, in response to a war protestor's jacket that read "Fuck the Draft," that "one man's vulgarity is [often] another's lyric").

353. But see, for example, Capper-Volstead Act of 1922, 7 U.S.C. §§ 291-292 (1988) (creating an exemption from the antitrust laws for agricultural cooperatives); Clayton Act of 1914, § 6, 15 U.S.C. § 17 (1988) (same); Cooperative Marketing Act of 1926, § 5, 7 U.S.C. § 455 (1988) (same); Agricultural Adjustment and Agricultural Marketing Agreement Act, 7 U.S.C. § 608b(a) (same); Robinson-Patman Act of 1935, § 4, 15 U.S.C. § 13b (1988) (same); National Labor Relations Act, 29 U.S.C. § 152(3) (1988) (excluding farm laborers from the National Labor Relations Act); 29 U.S.C. § 213(a)(6) (excluding agricultural employees from the minimum wage and maximum hour provisions of the Fair Labor Standards Act, 29 U.S.C. §§ 206-207); 29 U.S.C. § 1803(a)(1) (exempting "family farms" from the Migrant and Seasonal Agricultural Worker Protection Act); 11 U.S.C. §§ 101(17)-101(19), 1201-1231 (1988 & Supp. 1993); (defining "farmer," "farming operation," and "family farmer" for purposes of the farm-specific provisions in Chapter 12 of the Bankruptcy Code); 7 U.S.C.A. § 2543 (Supp. 1995) (establishing a "crop exemption" from the Plant Variety Protection Act, 7 U.S.C. §§ 2321-2582 (1988)); I.R.C. § 521 (1988) (establishing special income tax rules for agricultural cooperatives); I.R.C. § 2032A (1988) (establishing special estate tax rules for dead family farmers); I.R.C. § 170(h); Rev. Rul. 77-414, 1977-2 C.B. 299 (establishing rules enabling family farmers to reduce their federal estate tax obligations by making contributions of farmland for qualified conservation uses); 49 U.S.C. § 10526(a)(5), (6) (1988) (creating agricultural and cooperative exemptions from the Motor

semblance of allocative efficiency and distributive justice to American agricultural policy. For too long we Americans have swallowed the empty ideology that "farmers . . . must be protected against competition from without, lest they go upon the poor relief lists or perish altogether."[354] It is time that this nation recognize that "free competition" alone serves as the guardian of consumer welfare, as "every consumer['s]" safeguard against exploitation by rapacious producers.[355]

In industrial society, "[t]he farmer operates in a sea of competitive behavior."[356] Farmers naturally cling to their "fragile little [farms], floating like . . . feather[s] on the water," as their sole "home and protection" atop the hostile, competitive ocean.[357] The time has come, though, for farmers to surrender their fetish for land and to adapt to a new environment where competition and evolutionary adaptation rule supreme. The Queen of Diamonds is Poseidon's bride; she abhors technological intransigence and drowns all those who resist the waves of invention in today's agricultural markets. Full fathom five the farmer lies; of his bones are fortunes made.[358] Let this, then, be the requiem for the American Ideology: home is the farmer, home at sea.[359]

In his "Cross of Gold" speech, William Jennings Bryan boasted that "the farmer who goes forth in the morning and toils all day—who begins in the spring and toils all summer—and who by the application of brain and muscle to the natural resources of the country creates wealth, is as much a business man as the man who goes upon the board of trade and bets upon the price of grain."[360] The Queen of Diamonds' reign will give tomorrow's farmers the chance to prove Bryan right. The risk and blinding speed of the board of trade may

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Carrier Act); 7 U.S.C. § 2132(g) (1988) (excluding "horses not used for research purposes and other farm animals, such as . . . livestock or poultry" from the Animal Welfare Act's definition of "animal"). See also 7 U.S.C. §§ 1922(a), 1934 (1988) (limiting eligibility for the old Farmers Home Administration's basic and "limited resource" loan programs to certain farmers); 7 U.S.C. § 1508(a) (1988) (limiting federally subsidized crop insurance to farmers); 7 U.S.C. § 1631 (1988) (distinguishing "farm products" from other goods); U.C.C. §§ 9-109(3), 9-307(1) (same).

354. *West Lynn Creamery, Inc. v. Healy*, 114 S. Ct. 2205, 2218 (1994) (quoting *Baldwin v. G.A.F. Seelig, Inc.*, 294 U.S. 511, 523 (1935)).

355. Id. at 2218 (quoting *H.P. Hood & Sons, Inc. v. Du Mond*, 336 U.S. 525, 539 (1949)).

356. Cochrane, *Farm Prices* at 106 (cited in note 201).

357. Vilhelm Moberg, *The Emigrants* 296, (Oustaf Tamestock, trans.) (Simon & Schuster, 1951).

358. See William Shakespeare, *The Tempest*, Act. I, sc. 2, *ll.* 482-83 (cited in note 335) (stating, "Full fathom five thy father lies; / Of his bones are coral made").

359. Compare Robert Louis Stevenson, *Requiem*, in *Underwoods* XXI (C. Scribner's Sons, 1887) ("Home is the sailor, home from sea").

360. Bryan, *The Cross of Gold Speech* at 184 (cited in note 45).

seem alien to those addicted to the conventional opium of the agricultural masses:[361] that farming can be and should be stable. For the addicts among us, I offer the reminder that the first "tiller of the ground" in the Judeo-Christian tradition was fated to be "a fugitive and a vagabond . . . in the earth."[362]

One task remains. Until the legal apparatus erected during the ascendancy of the American Ideology withers away, the food consumer will remain vulnerable to the political machinations of agrarian interest groups. Agrarian self-dealing polluted the very founding of the American republic and will likely remain until the newly risen system of global, industrialized, and consumer-driven food production completes its conquest of agriculture. Let the farming classes tremble at the feet of consumerism and competition. Bourgeois food consumers have nothing to lose but their bucolic illusions. They have a world to win.[363]

361. Compare Karl Marx, *Contribution to the Critique of Hegel's* Philosophy of Right: *Introduction*, in Robert C. Tucker, ed., *The Marx-Engels Reader* 11, 12 (Norton, 1972) ("[religion] is the *opium* of the people").

362. Gen. 4:12; see also Gen. 4:2 ("Cain was a tiller of the ground").

363. Compare Marx and Engels, *Manifesto of the Communist Party* at 362 (cited in note 55).