

Securing Solar Energy Rights: Easements, Nuisance, or Zoning?*

In view of the hazards of nuclear power and the dwindling supply of fossil fuels, our civilization must rely increasingly on alternative energy sources.¹ The dislocation and shock of a potentially severe, fairly abrupt decline in our material standard of living² can be dampened considerably if energy market adjustments are supplemented by legal encouragement for the development and adoption of alternative energy technologies.³ While it is generally agreed that energy research and development efforts should be diversified,⁴ solar energy⁵ is less environmentally obtrusive than other potential successors to fossil fuels.

Solar energy is environmentally attractive for what it is not. It does not cause land surface spoliation, black lung and the smog-related respiratory and cardiovascular diseases, oily seas, or thermal or radiological pollution. However, a shift to solar energy may not prove as environmentally advantageous as its most ardent proponents contend. Whether deployed in "solar farms" or individual

This Comment is based on the essay *Securing Insolation Rights: Ancient Lights, Nuisance, or Zoning?* to which the Association of Trial Lawyers of America has a right of publication.

1. Often dubbed "natural" by proponents and "exotic" by detractors, these sources include solar, geothermal, and tidal energy, methane generation from or combustion of organic waste, and wind. The consensus of government and industry, whether in pursuit of national energy independence or fulfillment of consumer desires, calls for an all-stops-out approach to development of energy resources, heavily weighted according to near-term potential. *See* 121 CONG. REC. H12, 336-428 (daily ed. Dec. 11, 1975) (debates on H.R. 3474, 94th Cong. 1st Sess. (1975), proposed Energy Research and Development Administration (ERDA) authorization bill).

2. *See Oil Experts Say an Embargo Now Would Hurt U.S. More Than in '73*, N.Y. Times, Oct. 18, 1976, at 1, col. 5.

3. *See, e.g., The Impact of Growth on the Environment: Hearings Before the Subcomm. on Air and Water Pollution of the Senate Comm. on Public Works*, 93d Cong., 1st Sess. 109-10 (1973) (statement of Prof. Earl Cook).

4. *See* Pub. L. No. 94-187, 89 Stat. 1063 (ERDA appropriation authorization for fiscal year 1976).

5. The term "solar energy" is used here in its popular sense, connoting direct as opposed to biologically stored solar energy.

buildings,⁶ solar technology, apart from the impact of the industries involved in its production, is mildly obtrusive upon the environment. The classic environmental dilemma—the fact that centralization usually promotes energy efficiency but also produces pollutive concentrations of byproducts—has not spared solar energy. Central solar power generation involves extensive land use preemption, and might cause local aquatic thermal pollution and disrupt atmospheric circulation patterns.⁷ Such problems suggest simply that domestic solar units may be the environmentally preferred technology for achieving deurbanization with a minimal loss of energy economies of scale.

6. One observer who favors small-scale technology has suggested that the federal government is biased to the contrary in response to the existing centralized energy interests. See *The Mother Earth News*, No. 36, at 12-13 (Nov. 1975). Countering this view of a cabal between government and the utility companies, it must be conceded that, at least in the short run, continued utilization of the existing power distribution grid is the least expensive course. Yet it does appear that the federal government is leaning toward centralized rather than decentralized solar power. Among the “specific solar energy technologies to be addressed or dealt with” under § 6(c) of the Solar Energy Research, Development, and Demonstration Act of 1974, 42 U.S.C. 5555(c) (Supp. V 1975), are “solar heat as a source for industrial purposes,” “thermal energy conversion for the generation of electricity,” and “photovoltaic and other direct conversion processes.” Congress’ selection of areas for investigation suggests a desire to improve the competitive position of centralized solar power vis-à-vis domestic solar technology. Solar research projects funded by ERDA have also been criticized as “ingenious high-technology ways to supply energy in a form and at a scale inappropriate to most end-use needs.” Lovins, *Energy Strategy: The Road Not Taken?*, 6 *Not Man Apart*, no. 20 at 3, 8 (Nov. 1976). In contrast to the federal trend, the most generous state statute exempting solar energy devices from real property taxes excludes “persons and firms . . . primarily engaged in the provision of gas or electricity derived from fossil fuel extraction or conventional hydroelectric development.” MONT. REV. CODES ANN. § 84-7406(2) (Supp. 1975). *But cf.* TEX. TAX-GEN. ANN. art. 12.01, § (6) (Vernon Supp. 1976) (corporation may deduct from taxable capital the cost of a solar energy device amortized over sixty months).

The competition between centralized and domestic solar units should not be confused with the problem of integrating solar development into the total energy picture. The legitimate fear that “utilities could be subjected to unacceptable peak loads by large numbers of solar buildings that draw on them simultaneously only during periods of bad weather,” Duffie & Beckman, *Solar Heating and Cooling*, 191 *SCIENCE* 143, 149 (1976), implies that widespread conversion to solar energy will save operating costs but not capital costs for conventional centralized utilities, since they must be maintained as an auxiliary power supply. See Feldman & Anderson, *Financial Incentives for the Adoption of Solar Energy Design: Peak-Load Pricing of Back-Up Systems*, 17 *SOLAR ENERGY* 339 (1975).

7. See J. HOLDREN & P. HERRERA, *ENERGY: A CRISIS IN POWER* 115 (1971). In the final analysis, however, the military vulnerability of a nation reliant upon central energy plants may ultimately prove more persuasive than environmental arguments at the federal level.

The installation of solar hardware in buildings raises an entirely different issue, one of aesthetics.⁸ Ironically, environmental awareness has given impetus to the notion that an unaesthetic structure may amount to a nuisance. Thus far aesthetic nuisance has been urged more enthusiastically by commentators than by litigants; however, the aesthetic review boards to which the authority to deny a building permit is delegated under some zoning ordinances may prove a serious stumbling-block for the builder or renovator wishing to install solar devices.⁹ Fortunately, intensifying consideration of the solar collector problem in architectural circles,¹⁰ combined with the possible education of the review boards to the practical necessities of solar installations, offers hope of an improved reconciliation between thermal efficiency and aesthetic conformity.¹¹

Recognizing the desirability of exploiting solar energy, federal, state, and, to a lesser extent, local legislative bodies have sought to boost solar energy over the threshold of technical viability and to induce the private sector to buy into a capital-intensive enterprise destined to yield intermediate-term and long-term social benefits. In the last few years, legislatures have considered or enacted a potpourri of measures calling for government research and development, subsidized research, demonstration projects, government procurement, low-interest consumer loans, property tax exemp-

8. See Thomason & Thomason, *Solar House/Heating and Cooling Program Report*, 15 SOLAR ENERGY 27, 35 (1973); Sheridan, *Criteria for Justification of Solar Energy System*, 13 SOLAR ENERGY 425, 427-8 (1972).

9. See *State of Missouri ex rel. Stoyanoff v. Berkeley*, 458 S.W.2d 305 (Mo. 1970) (upholding Architectural Board's denial of a building permit on aesthetic grounds based on ordinance whose purpose was preservation of property values).

10. Interview with Hillary Brown, architect, in New York City (Oct. 3, 1976); see *Pratt Show Relates Energy to Architectural Design*, N.Y. Times, Mar. 19, 1976, at 21, col. 1.

11. If architects can overcome the notion that an exterior solar collector is per se an excrescence, their only remaining problem will be placement of the apparatus. Beyond the necessity of southern solar exposure, considerable flexibility is possible in placing a collector for nearly optimum performance. Insolation data suggest that compass orientation is a far more important engineering constraint than angle of elevation for a solar collector. Experts are generally sanguine about the efficiency effects of integrating the collector into the building envelope at orientations diverging from solar-normal at midwinter. See, e.g., Duffie & Beckman, *supra* note 6, at 143. Furthermore, an angle approaching the horizontal reduces the threat of vandalism, and reduces the probability that neighbors will be disturbed by reflective glare from the collector covers. Collectors can also be located in the vertical south wall of a building without loss of efficiency during the midwinter period of peak heating demand.

tions, and consumer protection in the area of solar energy devices.¹² Yet one more fundamental problem must be addressed before a homeowner or builder can safely invest several thousand dollars in a solar heating or hot water system. That problem is the establishment of a legal right to sunlight.

The existence or creation of solar rights is largely a matter of state and local law. However, there are areas in which federal powers could be useful, for example, in manipulating cloud cover and in enforcing the Clean Air Act.¹³ International law¹⁴ might affect the operation of a satellite solar power station.¹⁵ Subject to such exceptions, access to sunlight is rooted in the property law concepts of covenant, easement, nuisance, and zoning. The broad scope of the police power and the local nature of solar energy problems, such as unequal access to conventional energy sources and differences in meteorologic conditions, suggest that reform of state and local land use law, presently hostile to solar utilization, is the preferred approach for the establishment of solar rights.

12. See, e.g., Solar Energy Research, Development, and Demonstration Act of 1974, 42 U.S.C. §§ 5551-5566 (Supp. V 1975); Solar Heating and Cooling Demonstration Act of 1974, 42 U.S.C. §§ 5501-5517 (Supp. V 1975); H.R. 8712, 93d Cong., 1st Sess. (1975) (proposed Conservation and Solar Energy-Federal Building Act of 1975); H.R. 10380, 93d Cong., 1st Sess. (1975) (proposed Solar Energy Equipment Loan Act); IND. CODE ANN. §§ 6-1.1-12-26 to 28 (Burns Supp. 1976) (real property assessment exemption).

13. 42 U.S.C. §§ 1857-1857l (1970). Air pollution severely attenuates insolation, hampering solar utilization, particularly at higher latitudes, where sunlight must travel further through the atmosphere. Regarding the gravity of smog's effect, compare Barrett, *Depletion of Short-wave Irradiance at the Ground by Particles Suspended in the Atmosphere*, 13 SOLAR ENERGY 327, 333-34 (1971) with V. OLCYAY & A. OLCYAY, SOLAR CONTROL AND SHADING DEVICES 59 and Telkes, *Solar Stoves*, in 3 TRANSACTIONS OF THE CONFERENCE ON THE USE OF SOLAR ENERGY—THE SCIENTIFIC BASIS 92 (1958). Air pollution, in the form of particulate fallout, decreases the translucence of collector plate covers, imposing cleaning costs. The technical prospects for solar energy utilization will benefit from a multiplier effect, since the initial substitution of solar for fossil fuel will improve air quality, thus increasing insolation and augmenting solar collector output.

14. See, e.g., Cheng, *Problems of Space Law*, 7 THE NEW SCIENTIST 1256 (1960). Someday, nations may perceive that the recognition of solar rights under international law would facilitate the establishment of a global solar energy network from which many economic gains would ensue. International solar sharing would permit tactful export of technology and environmental aspirations by developed countries, with a quid pro quo in the form of diurnal and seasonal leveling of insolation and energy demand.

15. A satellite solar power station would consist of an array of photovoltaic cells to convert sunlight to electricity, plus a transmitting antenna to beam the power back to Earth. Glaser, *Satellite Solar Power Station*, 12 SOLAR ENERGY 353 (1969).

Most commentators agree that at present no right to laterally incident solar energy accrues to the owner of real property in this country.¹⁶ However, until recently, sunlight, as opposed to daylight and other open space amenities, was at best an unarticulated concern of the law, and legal institutions have not yet addressed significant attention to the problems of direct solar energy utilization. On the chance, then, that the negation of a right to sunlight has not been definitively established, it is prudent to examine the reasoning behind the general consensus.

I. ANCIENT LIGHTS

A. *England*

Those who find no right generally reason from the refusal of American courts to adopt the English doctrine of ancient lights, by which a negative easement for the passage of light and air may arise by prescription. The following exposition is intended to show that the rejection of ancient lights cannot correctly be understood to preclude the assertion of sunlight rights for solar collectors.

For centuries, English common law has recognized a prescriptive easement for light and air based on a period of uninterrupted adverse user. An action on the case for nuisance would lie for stopping light or air, but not for stopping view, "which is a matter only of delight, and not of necessity."¹⁷ Similarly, the right established by the application of the doctrine does not encompass sunlight.¹⁸ Consistent with the notion that the right extends only

16. Eisenstadt & Utton, *Solar Rights and Their Effect on Solar Heating and Cooling*, 16 NAT. RESOURCES J. 363 (1976); Kraemer, *Solar Rights*, 3 COLO. LAW. 665 (1974); Robbins, *Law and Solar Energy Systems: Legal Impediments and Inducements to Solar Energy Systems*, 18 SOLAR ENERGY 371 (1976); Thomas, *Access to Sunlight*, in PROCEEDINGS OF THE WORKSHOP ON SOLAR ENERGY AND THE LAW 7 (Am. Bar Foundation 1975); but cf. White, *The Allocation of Sunlight: Solar Rights and the Prior Appropriation Doctrine*, 47 COLO. L. REV. 421 (1976); but see Moskowitz, *Legal Access to Light: The Solar Energy Imperative*, 9 NAT. RESOURCES LAW. 177 (1976).

17. Aldred's Case, 77 Eng. Rep. 816, 821 (K.B. 1611) (per Wray, C.J.). *Accord*, Knowles v. Richardson, 86 Eng. Rep. 727 (K.B. 1670); Attorney-General *ex rel.* Gray's Inn Society v. Doughty, 28 Eng. Rep. 290 (Ch. 1752) (the Lord Chancellor: were "building so as to stop another's prospect . . . a nuisance . . . there could be no great towns; and I must grant injunctions to all the new buildings in this town").

18. B. ANSTEY & M. CHAVASSE, *THE RIGHT TO LIGHT* 3 (1963). This conclusion seems highly formal, considering that an ancient light benefiting a greenhouse begs to be transmuted into an insolation right. However, the failure to expand the doctrine can be explained as follows:

to human needs and not to luxuries, it has been held that for the plaintiff to prevail, "there must be a substantial privation of light,"¹⁹ such that the residual light is insufficient "for the ordinary purposes of inhabitancy or business of the tenement according to the ordinary notions of mankind."²⁰ Under this implicit nuisance standard, the requisite residual illumination increases as general standards of lighting rise.

Historically the right was established only if enjoyed from "time out of mind," or when "the memory of man runneth not to the contrary," determined by the cut-off date of 1189 CE.²¹ When the passage of centuries had rendered such a burden of proof virtually unbearable,²² statutes of limitation came to be applied. Under a statute adopted in 1623,²³ twenty years enjoyment of lights with the acquiescence of the servient estate was held to raise a rebuttable "presumption of a right by grant or otherwise."²⁴ Significantly, the doctrine of ancient lights did not apply in London or York.²⁵

Current English practice regarding light, though possibly not air, is governed by the 1832 Prescription Act,²⁶ as amended by the 1959 Rights of Light Act.²⁷ The 1832 Act overrode the London custom and made the presumption of right conclusive unless the user was by express written consent or agreement.²⁸ The Prescrip-

A cynic or pessimist might remark that in England one would be unlikely to acquire an easement to sunlight because it is irregular, infrequent and not of much use anyway, but the true reason why an easement to sunlight is not accepted as valid is, more probably, a lack of certainty rather than a lack of magnitude. It is probably not impossible that the courts might come round to the acceptance of an easement to sunlight, but it is perhaps unlikely and it is quite certain that at the present time no such right exists. . . .

Id.

19. *Colls v. Home and Colonial Stores, Ltd.*, 73 Ch. 484, 489-90 (1904).

20. *Id.* at 498.

21. 46 Am. Dec. 579 (1847).

22. *See, e.g., Bury v. Pope*, 78 Eng. Rep. 373 (Ex. 1586) ("thirty or forty years" insufficient).

23. 21 Jac. I, c. 16 (1623).

24. *Yard v. Ford*, 85 Eng. Rep. 922 (K.B. 1670) (dictum per Lord Mansfield).

25. *Wystanley v. Lee*, 36 Eng. Rep. 643, 645-6 (Ch. 1818) (custom of the City of London certified by the recorder in 1757 negated ancient lights); *Lynch v. Hill*, 24 Del. Ch. 86, 94-95, 6 A.2d 614, 618 (1939).

26. 2 & 3 Will. 4, c. 71.

27. 7 & 8 Eliz. 2, c. 56.

28. [W]hen the Access and Use of Light to and for any Dwelling House, Workshop, or other Building shall have been actually enjoyed therewith for the full Period of Twenty Years without Interruption, the Right thereto shall be deemed absolute and indefeasible, any local Usage or Custom to the contrary notwith-

tion Act also made it clear that the affected area of the dominant tenement must be improved—that is to say, the light must benefit a structure, even if it be a greenhouse,²⁹ while “there can be no prescription for light and air over open ground.”³⁰

The 1959 Act, amending the Prescription Act, was chiefly responsive to two events: the blitzkrieg of World War II, and the actions of certain local planning authorities. Reasoning that the blitz had conferred unfair advantages upon would-be dominant tenements where the walls of the corresponding servient tenement were destroyed, section 1 of the Rights of Light Act temporarily extended the 20-year prescriptive period under the Prescription Act to 27 years, effective through December 31, 1963. Secondly, under section 12 of the 1947 Town and Country Planning Act,³¹ “[s]ome planning authorities refused applications for such development” as “included erection of a screen to prevent the acquisition of a light easement.”³² Since the right to erect a structure blocking one’s neighbor’s light merely to toll the running of the prescriptive period and prevent the consequent vesting of the dominant right was thought a necessary concomitant to the doctrine of ancient lights, the 1959 Act, section 2, provided that after January 11, 1963, the servient owner might register in the register of local land charges a light obstruction notice, containing the dimensions and location of the fictitious wall, instead of crossing the planning authorities by erection of a real opaque wall. Section 3 of the Act spells out the consequences of the constructive obstruction. If twenty years has not run, the light obstruction notice tolls the prescriptive period, but if the right has vested, an action lies as if the wall existed, and failure to bring such action or to prevail therein can be treated as acquiescence in the obstruction for purposes of snuffing out the right.

Upwards of two hundred cases annually came before the Lands

standing, unless it shall appear that the same was enjoyed by some Consent or Agreement expressly made or given for that Purpose by Deed or Writing.

2 & 3 Will. 4, c. 71, § 3.

29. Clifford v. Holt, [1899] 1 Ch. 698 (1898).

30. Potts v. Smith, L.R. 6 Eq. 311, 318 (1868) (dictum; since enjoyment fell short of twenty years, counsel for plaintiff relied entirely upon the contention that the covenant of quiet enjoyment implied in a lease had been breached by obstruction of light coming into a garden).

31. 10 & 11 Geo. 6, c. 51, § 12.

32. Greene, *Rights of Light*, 109 SOLICITORS’ J. 768 (1965).

Tribunal under section 2 of the 1959 Act.³³ As a further consequence of the Act, the cost of title searches may have been increased considerably, for a cautious solicitor representing a client purchasing a site for development now must search not only for clouds on the title of the lot itself, but also for light obstruction notices registered against potential dominant tenements.³⁴

In 1967, when the Law Reform Committee surveyed the law of easements and prescription, it found the procedure for registering light obstruction notices "cumbersome,"³⁵ and voted 8 in favor of recommending abolition of the right to acquire easements by prescription to 6 in favor of recommending amendment of existing law.³⁶ "The Committee unanimously . . . recommend[ed] repealing the Prescription Act 1832 and substituting a period of twelve years' enjoyment (in gross, not limited to a period next before action brought)³⁷ as a means of acquiring an easement by prescription."³⁸ One apparent consequence of repeal would be to abolish the option the servient owner now has under the Prescription Act "to secure the right to develop his property, unhampered by apertures in dominant buildings, by granting written permission to the dominant owner if the latter is prepared to enter into such an agreement."³⁹ Legislation has not followed upon the recommendations. Thus, English law today allows prescriptive acquisition of a light and air easement by twenty years' user, and the would-be servient estate has a right to raise an approved structure or register a light obstruction notice during that period.

B. *United States*

During England's uneven experience with ancient lights, many United States courts considered adoption of the doctrine. In order to secure a basic clothing of law, the original states enacted reception statutes, whereby the contemporary common law of England was adopted as state common law. Reception statutes did not fore-

33. *Id.* at 769.

34. *Id.* at 770.

35. Wilkinson, *Law Reform Committee: Fourteenth Report on Acquisition of Easements and Profits by Prescription*, 30 MOD. L. REV. 189, 191 (1967).

36. *Id.* at 189.

37. As required under the Prescription Act § 4.

38. Wilkinson, *supra* note 35, at 192.

39. Greene, *supra* note 32, at 770 (noting that "such agreements are usually paid for by the dominant owner").

close arguments against adoption of the English rule on ancient lights, however, and judicial acceptance of the doctrine varied among the states. In *Clawson v. Primrose*,⁴⁰ the court, heeding the reception statute, held that the English doctrine was the law in Delaware.⁴¹ The plaintiff, arguing for application of the English doctrine, insisted that “[l]ight and air are as much necessities here as in an old country. . . . Besides there is less necessity for economizing space. The general effect of the doctrine upon the comfort and value of property is beneficial.”⁴² The defendant asserted the impossibility of adverse possession of an incorporeal thing, and argued that “[a]cquiescence is attributed only to one who can prevent [the act] by legal means,” whereas mere forbearance to prevent the passage of light fell short of acquiescence.⁴³ In upholding the servitude, the court noted that

the early law of prescriptive title to an incorporeal right proceeded not upon the ground of laches or neglect upon the part of the servient owner . . . but . . . upon the broader ground of quieting . . . the enjoyment of a privilege or benefit appurtenant to land after it has been long acquiesced in without obstruction.⁴⁴

Nevertheless, *Clawson v. Primrose* was overruled on policy grounds sixty-six years later in *Lynch v. Hill*,⁴⁵ leaving intact only the fragment of the earlier holding construing the reception statute, but emphatically limiting the received law to the common law and excluding the 1623 Statute of Limitations.

Other states, however, unhesitatingly repudiated the doctrine of ancient lights. Their approach is best illustrated in *Parker v. Foote*,⁴⁶ in which defendant’s counsel argued that the King’s Bench didn’t follow the lower courts of England in sustaining an action on the case for obstructing lights until after 1776, and that in any event adverse possession of lights is conceptually absurd. The court agreed that there could be no adverse user of lights, and as a further rationale, derided the necessity of building a useless wall to

40. 4 Del. Ch. 643 (1873).

41. *Contra*, *Cherry v. Stein*, 11 Md. 1, 23 (1858) (quoting *Smith v. White*, a Baltimore County case).

42. 4 Del. Ch. 643 at 646.

43. *Id.* at 648.

44. *Id.* at 670 note.

45. 24 Del. Ch. 86, 6 A.2d 614 (1939).

46. 19 Wend. 309 (N.Y. Sup. Ct. 1838).

prevent prescription. But the court's most telling argument was premised on the undeveloped nature of America.

[T]he modern English doctrine on the subject of lights . . . cannot be applied in the growing cities and villages of this country, without working the most mischievous consequences. . . . [T]hose portions of the common law of England which are hostile to the spirit of our institutions or which are not adapted to the existing state of things in this country, form no part of our law.⁴⁷

These three rationales—the policy of a developing country, the impossibility of adverse user of lights, and the undesirability of unproductive wall-building—have formed the basis for all subsequent rejections of ancient lights.⁴⁸ Careful examination of the three rationales will demonstrate that solar energy rights should not share the stigmata of ancient lights, and that sunlight easements deserve legal treatment distinct from light and air.

1. *Spite Fence Liability*. The English experience, inasmuch as the prescriptive period has gradually shortened, does not reflect disenchantment with prescriptive acquisition of light and air rights as much as distress at inequities perpetrated by its application. Perhaps the most ticklish problem is the fact that “under the English rule . . . [the quasi-servient owner's] only remedy is the seemingly ill-natured one of rendering the window of his neighbor useless, by building a wall or other obstruction for that purpose alone, if at the time he has no wish to build a house on his own property.”⁴⁹ But the vitality of the objection is diminished somewhat by the provision for the owner of the servient tenement to thwart the claim of acquiescence by giving explicit permission to the owner of the dominant tenement under the Prescription Act, and by the provision for creating a fictitious wall to toll the running of the statute under the Rights of Light Act.

What troubled American courts, aside from the unproductive nature of a wall or fence erected solely to stop lights, was the fact that “spite fences” of any substantial height were nuisances in

47. *Id.* at 318.

48. For cases, see 19 C.J. *Easements* § 84 (1920); 28 C.J.S. *Easements* § 19 (1941). In many of the cases, the rejection of ancient lights in mere dictum, the asserted open space rights being view, access, aesthetics, privacy and visibility rather than light and air.

49. *Cherry v. Stein*, 11 Md. 1, 22 (1858).

many jurisdictions, either by common law⁵⁰ or by statute.⁵¹ The particular statutory defenses, depending on drafting, may or may not have precluded the erection of a wall for the "purpose" of tolling the prescriptive period for ancient lights.⁵² And unless it was thought that one purpose of the doctrine of ancient lights was to discourage speculation in unimproved or underdeveloped properties, then there was a need for a convenient means by which the quasi-servient owner could prevent the right associated with the lights servitude from vesting. The absence of the above-mentioned English devices, combined with possible liability for spite fences, made it virtually impossible for ancient lights to gain acceptance in this country.

2. *No Adverse Use of Lights.* It is more difficult to resolve the fundamental rift between English and American courts over the possibility of adverse user of light. It has been remarked that "[t]here is no principle in all law which the moderns, in spite of its beneficial character, have been so loath to adopt and to carry to its legitimate consequences as that which was known to the Romans as Usucapion, and which has descended to modern jurisprudence under the name of Prescription."⁵³ The practice of establishing rights by prescription is effectively throttled when courts, despite the modern realities of dense land use and accessible recordation of

50. *E.g.*, *Hornsby v. Smith*, 191 Ga. 491, 13 S.E.2d 20 (1941); *Hibbard v. Halliday*, 58 Okla. 244, 158 P. 1158 (1916). For an example of the high pitch of moral indignation to which a spite fence can send a court, see *Burke v. Smith*, 69 Mich. 380, 389, 37 N.W. 838, 842 (1888):

What right has the defendant, in the light of the just and beneficent principles of equity, to shut out God's free air and sunlight from the windows of his neighbor, not for any benefit or advantage to himself, or profit to his land, but simply to gratify his own wicked malice against his neighbor? None whatever.

.....

The right to breathe the air, and to enjoy the sunshine, is a natural one; and no man can pollute the atmosphere, or shut out the light of heaven, for no better reason than that the situation of his property is such that he is given the opportunity of so doing, and wishes to gratify his spite and malice toward his neighbor.

51. N.Y. REAL PROP. ACTS. LAW § 843 (McKinney 1963); *Rideout v. Knox*, 148 Mass. 368, 19 N.E. 390 (1889) (construing Statutes of 1887, ch. 348). *But cf.* *Cohen v. Perrino*, 355 Pa. 455, 50 A.2d 348 (1947) (permitting the maintenance of a purely malicious wall, ignoring an apparent conflict with the 1939 Pennsylvania spite fence statute, PA. STAT. ANN. tit. 53, § 15171 (Purden 1957)). See Pauline, *Constitutionality of the Pennsylvania Spite Fence Statute*, 75 DICK. L. REV. 281 (1971).

52. Compare New York (good faith improvement) with Massachusetts (absence of malice).

53. H. MAINE, ANCIENT LAW 275 (10th ed. 1970).

encumbrances, continue to require that use be open, notorious, continuous, uninterrupted, adverse, and under claim of right. Since these adjectives in sum are little more than an elaborate judicial gloss on constructive notice, actual notice of use, such as is afforded in most instances by erection of a solar device, should also suffice.⁵⁴ Elusive constructive notice requirements reflect a bias against shifting entitlements through prescription. Actual notice and the emerging public policy favoring solar energy use amply support the equitable determination of laches sought by lights claimants against the dormant development rights of neighboring estates.

The key obstacle to prescription with regard to insolation lies in the fact that adverse user cannot arise unless the quasi-servient owner has resort to a legal, as opposed to physical, remedy against the enjoyment of the ripening servitude during the prescriptive period. The Restatement of the Law of Property explains that the requirement of wrongfulness ensures that "a person against whom the use is claimed to be adverse has the opportunity to protect himself by vindicating his rights through legal proceedings."⁵⁵ It has been said that "[t]he doctrine [of ancient lights] appears to have arisen out of the misapplication in England of the principle, by which rights and easements are acquired by the adverse claim and enjoyment of them for twenty years, to a case in which no adverse or injurious claim was either made or enjoyed,"⁵⁶ and that "in the nature of things there can be no adverse user of light or air, for the actual enjoyment of these elements by a property owner is upon his own land only, and involves no encroachment upon his neighbor's land; . . . the owner of the adjoining land, therefore, having submitted to no encroachment upon his own rights, cannot be presumed to have assented to any such encroachment."⁵⁷ But, on the other hand, perhaps English jurists deliberately dropped the requirement of wrongfulness, since prescription is more favored in their law than in ours.

American courts tend to follow their gut feeling that prescription destroys a right of the servient estate and creates a correlative right

54. See PROCEEDINGS OF THE WORKSHOP ON SOLAR ENERGY AND THE LAW 9 (Am. Bar Foundation 1975).

55. RESTATEMENT OF PROPERTY, § 458, Comment f (1944).

56. *Pierre v. Fernald*, 26 Me. 436, 441 (1847).

57. 19 C.J. *Easements* § 84 (1920).

in the dominant estate.⁵⁸ The Restatement steers a more neutral course, recognizing that the “[p]rincipal objectives of the law in . . . prescription are the protection of long-established positions and a relatively prompt termination of controversies,”⁵⁹ in order to protect valid claims against continued impairment in value or loss through dissipation of evidence proving the invalidity of adverse claims. “The effect may be, and often is, to destroy a valid claim and to make valid one previously invalid.”⁶⁰ In this view, the benefit of protecting an ongoing use is believed to exceed the cost of sometimes indulging an unwarranted presumption in favor of the prescription claimant. It should not be necessary, in order to find an easement by prescription in a particular case, to determine that the value of the benefit is greater than the cost of the burden, for the parties are free to undo the decree through contract. Nor it is obvious that justice is disserved by prescriptive entrenchment of a passive use of neighboring property. As the minority of the Law Reform Committee which favored prescriptive easements argued,

[p]rescription involves open enjoyment, it is not ‘easement stealing.’ The dominant owner may believe that he has an easement already and may have paid an enhanced price for the land because of his belief. If ‘a *status quo* of long standing ought to be given legal recognition, prescription has not outlived its usefulness.’ An easement, apparently based on prescription, may in fact have had a legal grant, now lost, at the root.⁶¹

Significantly, the negative easement most vital for direct solar energy utilization, abstinence from roof-shadowing activities, will often impose a smaller burden upon the servient estate than would an easement encompassing lights to the ground floor. The sunlight-shadow dichotomy, while injecting diurnal and seasonal complications, renders sunlight easements more susceptible to precise definition than ancient lights. Considering such possibilities, adverse user is perhaps too strong a statement of the character of the unilateral action equitably requisite to the acquisition of a prescriptive easement for sunlight.

3. *Development Policy.* The nineteenth century American resolution of lights disputes, with the exception of spite fence liability

58. See Aldridge, *Prescriptive Easements in North Carolina*, 45 N.C. L. REV. 284, 294 (1966).

59. RESTATEMENT OF PROPERTY, §§ 457-65, Introductory Note (1944).

60. *Id.*

61. Wilkinson, *supra* note 35, at 192.

in some jurisdictions, usually favored the later developer's rights, upon the assumption that so doing would tend to further "[t]he policy of the law . . . to encourage the most advantageous use of land."⁶² Echoing the sentiments of *Parker v. Foote*, Maryland's highest court, in *Cherry v. Stein*,⁶³ declined to "consider as applicable to the cities and villages in this State such a right to lights, by twenty years user of them, as in some of the American cases has been called the 'modern English doctrine.' To adopt it would greatly interfere with, and impede, the rapid changes and improvements which are here constantly going on."⁶⁴ A Pennsylvania decision asked rhetorically: "[H]ow can we define an easement for light and air by implication, without arresting all change in the style of buildings, all enlargements of a man's house according to the demands of a growing or improving family?"⁶⁵ In rejecting ancient lights, a Texas court theorized that "[t]he consequence of the admission of the right claimed by the plaintiff would be that the occupants of low and inferior houses, such as are usually the first erected in new towns, at the end of a few [sic] years, would acquire rights without any act of adverse possession, which might render useless and waste the most valuable lots for business purposes or residences in our growing towns and cities. A doctrine fraught with such consequences cannot be the common law of this country."⁶⁶

In the same era, the Supreme Court of Pennsylvania echoed the sentiment that law ought to support an ethic which has been labelled the "frontier desire to improve newly-cleared land to the fullest."⁶⁷ The sentiments, though expressed in the different context of an action for damages for the fouling of a riparian farmer's water by upstream mine pumpings, demonstrate the unrestrained attitude of the courts favoring free competition:

[E]very man is entitled to the ordinary and natural use and enjoyment of his property; he may cut down the forest trees, clear and cultivate his land, although in so doing he may dry up the sources of his neighbor's springs, or remove the natural barriers against wind and storm . . . every man has the right to the

62. *Knabe v. Levelle*, 23 N.Y.S. 818, 824 (Sup. Ct. 1892).

63. 11 Md. 1 (1858).

64. *Id.* at 21.

65. *Haverstick v. Sipe*, 33 Pa. 368, 371 (1859).

66. *Klein v. Gehring*, 78 Am. Dec. 565, 569-70 (Tex. 1860).

67. Note, *Development Rights Transfer in New York City*, 82 YALE L.J. 338, 340 (1972).

natural use and enjoyment of his own property, and if whilst lawfully in such use and enjoyment, without negligence or malice on his part, an unavoidable loss occurs to his neighbor, it is *damnum absque injuria*, for the rightful use of one's own land may cause damage to another, without any legal wrong.⁶⁸

Thus in the age of beggar thy neighbor laissez faire development, the courts provided appropriate support for maximization of earth resources extraction and economically valuable construction, completely embracing "freedom to" rights at the expense of corresponding "freedom from" rights. It hardly needs stating that the attitudes underlying such decisions are undergoing profound changes in a densely settled world of four billion people marked by a deepening awareness of the interrelatedness of entities within the ecosystem and broadening notions of "rights."

In sum, it can be said that the three rationales for rejecting the ancient lights doctrine are surmountable, questionable, and outdated. Erection of useless spite fences can be avoided by introducing, in modified form, the English system of phantom barriers. In order to preserve an equitable balance of rights, however, the size and location of the hypothetical structure set forth in the light obstruction notice ought to be limited to the currently anticipated development of the estate registering the notice. Adverse use is a close question and a knotty one, and its resolution is largely a philosophical matter. However, the American view, which requires tortious use for prescription, is influenced by a dubious preference for dormant ownership over socially beneficial use. Finally, the policy-based objection to ancient lights cannot be maintained against the economic and ecological desirability of solar energy development. Ample building lot sizes and abundant fossil fuels, conditions which supported the rule against prescriptive acquisition of light and air rights, are rapidly fading into history.

68. *Pennsylvania Coal Co. v. Sanderson*, 113 Pa. 126, 145-46, 6 A. 453, 456-57 (1886). Cf. *Levy v. Samuel*, 4 Misc. 48, 49, 23 N.Y.S. 825, 826 (Sup. Ct. 1893):

It will not do for a man to build to the extreme end of his lot, and then complain because his rear neighbor, in exercising the same privilege, has cut off the light, air or prospect he formerly enjoyed. He should not rely upon the generosity of his neighbor, and must depend upon himself, by reserving space enough on his own land for all his requirements,—light, air, and vision included. These elements form valuable easements, to be acquired only by grant or prescription, neither feature forming any part of this controversy.

There is no clear finding as to whether the erection of the wall at issue was purely malicious or motivated at least in part by defendant's desire for privacy.

More than a simple reassessment of the American rejection of the ancient lights doctrine is needed. The scope of ancient lights would have to be expanded to include direct insolation.⁶⁹ But even then, further modifications would be necessary to provide prompt protection for investments in solar collectors prior to the running of the statutory period for prescription. One writer has suggested that installation of a collector could raise a presumption that it had been in place for the prescriptive period.⁷⁰ This rather drastic fiction would allow the insolation right to vest immediately upon construction. Another scheme, more in accord with economic efficiency, would be to provide for a compulsory public auction of the insolation easement after filing of a notice of intent to set up a solar energy device. The right would then be retained by the adjacent landowner, or transferred to the solar user or a third party, depending upon its highest value in competing economic uses. Whatever the solution, the remedial system ought to fill the gaps left by the waiting period for prescription and the difficult scienter

69. Here it is assumed that a solar easement is different from the ancient lights right. See White, *supra* note 16, at 430-31. Whether courts will treat solar easements as light and air easements will depend in part on the desirability of using a known body of case law, and on policy considerations of property and energy law. The resolution might also be influenced by the inference drawn from the relationship of solar energy to light on the electromagnetic spectrum. Visible light is a subset of the solar energy band, which also includes ultraviolet and infrared electromagnetic wavelengths. Standing alone, this fact would seem to imply that a rule of law which applies to solar energy applies a fortiori to light, but not vice versa. However, Eisenstadt and Utton, *supra* note 16, point out that it is probably technically impossible to construct a filter which will block infrared or ultraviolet waves but not visible light. They apply to the servient estate the principle that if it is impossible to act so as to exercise a privilege within its proper confines, then the privilege vanishes. The light right of the dominant estate must then expand to fill the perceived void. In more precise Hohfeldian terms, when the servient estate's privilege of cutting off infrared and ultraviolet wavelengths cannot be exercised without violating the right of the dominant estate to receive visible wavelengths, the privilege disappears, the correlative no-right of the dominant estate likewise disappears, and the right of the dominant estate accordingly expands to encompass the receipt of infrared and ultraviolet as well as visible wavelengths, while the correlative duty of the servient estate not to block visible light expands to include the other wavelengths. Cf. William Shakespeare, *The Merchant of Venice*, act IV, scene i (1596) (Portia, J.). With a dash of pro-solar policy thrown in, Eisenstadt and Utton conclude that an unobstructed light easement "includes or implies" a solar energy easement. Eisenstadt & Utton, *supra* note 16, at 374. It can be inferred from this analysis that any remedy for invasion of an easement for unobstructed light will be equally efficacious for protecting an insolation easement. However, it is unclear whether courts will treat insolation easements as generously or as stingily as air and light easements.

70. P-hbins, *supra* note 16, at 374.

standard for spite fence liability, without diminishing the neighbor's development rights to a constitutionally impermissible degree. The considerable retooling required to convert ancient lights into an effective source of insolation rights suggests that the English doctrine is not a very useful model for legislation in the solar energy age.⁷¹

II. EASEMENTS

A. *Granted or Implied*

Another alternative is for an owner intending to install solar energy collectors on the wall or roof of a building to purchase easements for sunlight from the appropriate neighbor(s). The conceptual difficulty of equating insolation to light and air does not arise, since the parties are free to define the easement in terms of its purpose. For instance, direct sunlight almost certainly would fall within the ambit of the California statute defining permissible subjects of easements, which include "[t]he right of receiving air, light, or heat . . . over . . . land."⁷² Nonetheless, insolation easements obtained by contract bear several legal and economic burdens—initial expense, liability to taxation, and uncertain treatment under property law—which portend potential difficulties.

Absent stringent building height restrictions, the price demanded for an easement of access to insolation could be prohibitive, approaching the price for the fee simple where the servient estate is substantially underdeveloped with respect to the applicable zoning ordinance. In practice, light rights over adjoining properties are rarely purchased, although several such transactions have occurred in New York City's financial district, where rents are markedly higher on the upper floors.⁷³

At present, there is no statutory authorization for government to share the potentially burdensome expense of a solar easement. Loans under the proposed federal Solar Energy Equipment Loan Act⁷⁴ would be authorized for plans, materials and labor but not for

71. See White, *supra* note 16, at 430.

72. CAL. CIV. CODE § 801 (West 1954), which in relevant part reads as follows: "The following land burdens, or servitudes upon land, may be attached to the other land as incidents or appurtenances, and are then called easements: . . . 8. The right of receiving air, light, or heat from or over, or discharging the same upon or over land."

73. G. FORD, BUILDING HEIGHT, BULK, AND FORM 91 (1931).

74. H.R. 10380, 93d Cong., 1st Sess. (1975), which would create a Solar Energy

the cost of purchasing solar easements, a serious but understandable limitation on the practical efficacy of the Act.⁷⁵ It has been suggested that model solar energy legislation should delegate to municipalities the power to condemn for such "skyspace" as a private solar collector might require.⁷⁶ However, existing statutory authorization for state purchase of open space easements as a means of preserving public amenities pursuant to the public trust doctrine does not extend to the purchase of negative easements for public, much less private, solar energy projects.

A further problem is the possibility that a solar easement, being akin to a development rights transfer, might be a taxable component of the assessed value of real property.⁷⁷ Such an argument finds support in *Ladd v. City of Boston*,⁷⁸ which held that when the city condemned several properties among a group subject to a mutual covenant containing horizontal and vertical building restrictions, a party thereto was due compensation for the taking of the "right to have land not built upon for the benefit of the light, air, etc. of neighboring land."⁷⁹

Also discouraging to solar easement acquisition is the possibility

Loan Administration, modeled after the Rural Electrification Administration, to provide 2% interest, 25-year loans applicable to all costs involved in domestic solar hardware installation. The system would have to be simple, appropriate, effective, and reasonably priced, and the equipment would have to satisfy performance criteria developed by the Department of Housing and Urban Development under the Solar Heating and Cooling Demonstration Act of 1974, 42 U.S.C. §§ 5501-5517 (Supp. V 1975). The coverage initially would be restricted to mobile homes and detached single-family houses, but could be expanded by the Administrator.

75. Loans under section 5 of the Solar Energy Equipment Loan Act would cover "all expenditures related to the purchase and installation of solar hardware including the costs of engineering or architectural planning." H.R. 10380, 94th Cong., 1st Sess. § 5 (1975). Cf. Airport and Airway Development Act of 1970 § 20,(a)(2) 49 U.S.C. § 1720(a)(2) (1970), which provides for the purchase of air space easements in addition to land among "allowable project costs;" N.Y. GEN. MUN. LAW § 555 (McKinney 1974):

Real property or any interest therein, including but not limited to air rights, and easements or other rights of user necessary for the use and development or such air rights, to be developed as air rights sites for the elimination of the blighting influences over an area or areas consisting principally of land in streets, alleys, highways and . . . [areas] . . . necessary for or incidental to any urban renewal program . . . may be acquired by an [urban renewal] agency by . . . purchase, condemnation or otherwise . . .

76. See Rose, *The Transfer of Development Rights: Preview of an Evolving Concept*, 3 REAL ESTATE J. 330 (1975).

77. Eisenstadt & Utton, *supra* note 16, at 376.

78. 151 Mass. 585, 24 N.E. 858 (1890) (per Holmes, J.).

79. *Id.* at 588, 24 N.E. at 859.

that unless courts or legislatures adopt a special rule for such easements, an expressly granted easement burdening a non-adjointing servient tenement might not run with the land, being held an easement in gross rather than appurtenant, in jurisdictions where the touching requirement is strictly applied.⁸⁰ Similarly, the reluctance of courts to imply a grant of a light and air easement over a vacant lot upon the severance therefrom of the dominant estate might carry over to solar easements,⁸¹ as might the precedent for narrow construction of a reservation of an easement for light and air.⁸²

However, of some comfort, particularly to people whose abodes abut on the north sides of streets, is the law's recognition of an implied "easement of light and air in the street in favor of the abutting owner."⁸³ The leading case, *Wall v. Eisenstadt*,⁸⁴ held that "[t]his right to light and air is not restricted to the space immediately in front of the abutter's property but extends on either side a reasonable distance, to prevent the obstruction of the access of light and air to the abutter's property."⁸⁵ The court granted an injunction prohibiting the construction of a garage extension be-

80. Compare *Shia v. Pendergrass*, 222 S.C. 342, 351, 72 S.E.2d 699, 703 (1952) ("the absence of a terminus [of the claimed right of way] on his property is fatal to his claim of an appurtenant easement") with *Anania v. Serenta*, 275 Pa. 474, 476, 119 A. 554, 555 (1923) ("The right to convey water from a distant source may be appurtenant to land separated from the source of supply").

81. Compare *White v. Bradley*, 66 Me. 254, 263-64 (1876) (dictum) (test is whether light and air easement is "necessary for the reasonable enjoyment" of the house, rather than "mere convenience") with *Keats v. Hugo*, 115 Mass. 204 (1874) (overruling *Story v. Odin*, 12 Mass. 157 (1815)) (a conveyance of a tenement with windows overlooking a vacant lot owned by the grantor creates no easement therein for light and air as against a subsequent purchaser).

82. See *Hagerty v. Lee*, 45 N.J. Eq. 1, 15 A. 399 (1889), in which the deed from plaintiff to defendant's predecessor in title contained these words: "Reserving the right to the free use of the light and air over the tract above described in case he should build on the common line between the parties, and the right to put windows in said building overlooking the tract above described." *Id.* at 2, 15 A. at 399. The chancellor nevertheless dissolved an injunction against construction which would shut off two windows completely and two partially, holding that "the easement extends at least to a sufficiency of light and air from the defendant's premises, although the right of the complainant, under the reservation, to maintain an unlimited and unnecessary number of windows may be doubted, or at all events unsettled." *Id.* at 4, 15 A. at 400.

83. *Wall v. Eisenstadt*, 51 R.I. 339, 341, 154 A. 651, 652 (1931); see also *Klaver v. Lakenan*, 64 F.2d 86 (8th Cir. 1933) (dictum) (right to be viewed); *Coy v. City of Tulsa*, 2 F. Supp. 411 (N.D. Okla. 1933) (dictum) (view and access).

84. 51 R.I. 339, 154 A. 651 (1931).

85. *Id.* at 341, 154 A. at 652.

yond the street line despite the town's willingness to grant a building permit, and went on to note that "the proposed addition would not only cast a shadow upon complainants' land but would materially interfere with the complainants' right to light, air and view."⁸⁶ Another case, *Western Newspaper Union v. City of Des Moines*,⁸⁷ mandated consideration of the obstruction of light and air "essential to the prosecution of a business" in a condemnation proceeding to determine the damages done to a printer's leasehold by the construction of a viaduct in the street.⁸⁸

B. *Energy Resource Easements*

In view of the lukewarm American reception of light and air easements, it might be possible to improve the advocate's argument by emphasizing that solar easements involve an energy resource. Easements of access to power sources are often treated more favorably than easements generally, though not always as favorably as easements of necessity. An energy resource analogy for insolation easements is a novel approach, but it cannot be considered farfetched in view of the developing realization of a need for a unified approach to energy development and the laws that structure that development.

Under the energy resource theory, the closest analogy to the solar collector is the windmill, concerning which the cases arise in England. In *Webb v. Bird*,⁸⁹ a schoolhouse was constructed 25 yards from plaintiff's windmill after three decades' user. It was argued that since an action would lie for stoppage of wholesome air, a fortiori the law should protect a prescriptive easement for wind used in industry.⁹⁰ The court held that the servitude could not be established under common law because its enjoyment had commenced within living memory, and it could not be established under section 2 of the Prescription Act because that section can only apply to an "easement . . . to be enjoyed or derived upon, or from any land or water."⁹¹ Noting that wind cannot be obstructed as conveniently as can light, the court discerned a legislative intent to treat "the uninterrupted passage of wind and air" differently

86. *Id.* at 342, 154 A. at 652.

87. 157 Iowa 685, 140 N.W. 367 (1913).

88. *Id.* at 694, 140 N.W. at 370.

89. 142 Eng. Rep. 455 (C.P. 1861).

90. *Id.* at 458.

91. 2 & 3 Will. 4, c. 71 § 2.

from "the passage of light," despite the "very close analogy" between these two types of easement.⁹² In *Goodman and Gore's Case*,⁹³ an assize for erecting houses *per quod ventus impeditur*, the court directed a verdict for the defendant. However, the decision may have rested on a technical error in the complaint or the miller's failure to include his wife, a joint tenant under the deed, as a party plaintiff. A report of a rare case upholding the right to receive wind to a windmill is, owing to its brevity, hardly more illuminating than the decisions contra: "Winch said, that it was adjudged in this Court, that where one erected a house so high in Finsbury Fields by the wind mills that the wind was stopped from them, that it was adjudged in the case that the house shall be broken down."⁹⁴

Whatever the rule is in England, the Restatement of the Law of Property evidently found authority in American law for applying to wind and light alike the rule that "a negative easement . . . cannot be created by prescription."⁹⁵ Regarding the wrongfulness which is a requisite component of adverse user, the Restatement gave the following illustration: "A windmill on the land of A is run by currents of air which reach A's land from the land of B, his neighbor. The running of A's mill depends upon the free flow of currents of air over B's land. In the running of his mill A is using B's land. His use is, however, neither wrongful as to B nor capable of being made wrongful by him. A's use is not adverse."⁹⁶ Unfortunately, such a rigidly conceptual approach ignores the beneficial purpose of the easement.

American courts have adopted a contrasting position regarding water-driven mills. The grant of a mill implies the right to use the watercourse to and the raceway from the mill,⁹⁷ although identical rights cannot be retained by implied reservation.⁹⁸ The extent of the easement is such that an action in trespass will not lie against an easement holder engaged in dredging the raceway from an ancient mill.⁹⁹ Similarly, a fairly consistent line of English decisions

92. 142 Eng. Rep. at 461.

93. 78 Eng. Rep. 115 (K.B. 1613).

94. 124 Eng. Rep. 3 (C.P. 1716).

95. RESTATEMENT OF PROPERTY § 458, Comment e (1944); *but see* Levy v. Samuel, 4 Misc. 48, 23 N.Y.S. 825 (Sup. Ct. 1893), quoted at note 89, *supra*.

96. RESTATEMENT OF PROPERTY § 458, illustration 5 (1944).

97. Richardson v. Bigelow, 81 Mass. 154 (1860).

98. Burr v. Mills, 21 Wend. 290 (N.Y. 1839).

99. Prescott v. White, 38 Mass. 341 (1838).

hold that an action on the case will lie for diversion of a water-course from a mill.¹⁰⁰ The varying treatment given to wind and water power easements in the English and American cases makes them an uncertain source for the synthesis of any support for special treatment of insolation easements on the basis of an energy resource theory.

However, the modern law of land use relating to public utilities might be applied to insolation easements to command appreciation for their importance. A New York statute pertaining to "easements of necessity" establishes that "[t]he owner of any lot . . . may, when necessary to the enjoyment of the lot . . . and when the same is not bounded by a public road, lay, beneath the roads or streets indicated and shown upon [a subdivision] map or described in [a] conveyance as giving access to or egress from any public road to such property . . . , wires and conduits for the purpose of supplying the said property with electric light and telephone source."¹⁰¹ The statute renders inapplicable to public utilities the strict necessity test for easements of access, but it effects no significant redistribution of entitlements, for the excavation must be carefully refilled and the fee owner or easement holder compensated for actual damage. Though the statute demonstrates legislative recognition of the special necessity surrounding public utilities, it scarcely supports an argument for the lasting imposition required by an insolation easement.

Similarly reflecting the perceived necessity of certain services, it has been said that where the local zoning ordinance fails to provide space for public utilities, the state will do so by statute or judicial decision, thus "lessening the power of individual communities to enact zoning ordinances which reflect the local desires and plans for community development."¹⁰² However, the obligation to provide public utility easements in the zoning scheme under such a theory extends only to utilities which are perceived as necessary for the public welfare, and does not mandate solar energy easements as a choice among present alternatives.

It is apparent that easements for insolation, whether asserted under a theory of prescription, grant, implication, or necessity, afford little hope for extensive use of solar energy devices in decen-

100. See 15 VINER'S ABRIDGEMENT *Mill* (2d ed. 1793).

101. N.Y. REAL PROP. LAW, § 335-a (McKinney 1968).

102. Twichell, *Zoning and the Exploding Public Utility*, 13 SYR. L. REV. 581, 588 (1962).

tralized units. Since easements for insolation are unlikely to be implied in any context, they will normally arise only by individual purchase. The substantial cost of such easements will make the use of solar energy prohibitively expensive in many cases. Unfortunately, the law of easements of access to energy sources is not adequately developed for effective application to solar energy purposes. Nevertheless, the easement concept should not be disregarded in considering insolation rights, for it provides relative certainty and permanence that may not be found in other areas of legal protection.

III. NUISANCE

The prospects for achieving insolation rights under nuisance doctrine are not good at present, but ought to improve when applied solar technology becomes commonplace. On the positive side, it has been remarked that the

very danger of the law of nuisance—the difficulty of a court arriving at a general test for the “reasonable use” of land— . . . lends flexibility to the private nuisance action and leaves open to a court the possibility of adopting and testing new value systems in its decision-making process.¹⁰³

Although the writer was evaluating the prospects for aesthetic nuisance actions, the point is equally applicable to the ease with which the courts could incorporate an awareness of the social value of solar energy development into nuisance decisions. Elsewhere, it has been asserted that “the proper tagging of an externality should change as normal conditions change. Automobiles when they first appeared were nuisances to horse travel; as cars began to swamp horse-drawn vehicles in number, horses were properly perceived as the nuisance.”¹⁰⁴ Since it takes two incompatible land uses to generate a nuisance claim, the equitable balance of rights as between them, or the verdict based upon the reasonableness test, ought to shift as technology evolves and the priorities of society change. There is certainly more play in the reasonableness standard of nuisance law than in the necessity standard of the law of easements by implication.

103. Silverstone, *Visual Pollution: Unaesthetic Use of Land as Nuisance*, 12 ALBERTA L. REV. 542, 546 (1974).

104. Ellickson, *Alternatives to Zoning: Covenants, Nuisance Rules and Fines as Land Use Controls*, 40 U. CHI. L. REV. 681, 731 (1973).

A. *Ancient Lights Stigma*

Despite the hope that nuisance law may hold for advocates of solar rights, the consistent judicial rejection of nuisance claims based upon the obstruction of light and air (excepting the spite fence cases) is rather disheartening. Since noise¹⁰⁵ and light¹⁰⁶ can be held nuisances, it is clear that relying on a nuisance theory does not require a showing of a trespassory invasion of land, even by minute particles. However, the necessity of articulating a right alleged to have been infringed remains. In nuisance actions generally, that right is defined as freedom from unreasonable interferences with the use and enjoyment of real property.¹⁰⁷ In *Venuto v. Owens-Corning Fiberglas Corp.*,¹⁰⁸ the court dismissed a complaint alleging obstruction of view by technologically suppressible air pollution from defendant's plant.¹⁰⁹ Partly by way of dictum, the court declared that a "structure . . . is not a nuisance *merely* because it obstructs the passage of light and air to the building of the adjoining owner or *merely* because it obstructs his view of neighboring property,"¹¹⁰ and found defendant's emissions sufficiently analogous to a structure to dispose of the issue. The rule that the obstruction of light, air, and view does not constitute a nuisance was said to "find [its] genesis in the repudiation of the English doctrine of 'ancient lights.'"¹¹¹ Thus, the court reasoned that the repudiation of ancient lights precluded any possibility that an entitlement to lateral insolation could exist at common law.

The leap of logic by which the absence of any right to sunlight is inferred from the negation of ancient lights finds further support in

105. *Swetland v. Curtiss Airports Corp.*, 41 F.2d 929, 932 (N.D. Ohio 1930), *modified on other grounds*, 55 F.2d 201 (6th Cir. 1932).

106. *The Shelburne, Inc. v. Crossan Corp.*, 95 N.J. Eq. 188, 122 A. 749 (1923).

107. See RESTATEMENT (SECOND) OF TORTS §§ 822, 826, 829A (Tent. Draft No. 18, 1972).

108. 22 Cal. App. 3d 116, 99 Cal. Rptr. 350 (1971).

109. *But cf.* *Holman v. Athens Empire Laundry Co.*, 149 Ga. 345, 350, 100 S.E. 207, 210 (1919):

The use of fuel in the home, the place of business, and the manufacturing establishment is necessary. In proportion as the population thickens, the impurities thrown into the air are increased. The pollution of the air, actually necessary to the reasonable enjoyment of life and indispensable to the progress of society, is not actionable; but the right . . . must not be exercised in an unreasonable manner so as to inflict injury upon another unnecessarily.

110. 22 Cal. App. 3d at 127, 99 Cal. Rptr. at 357 (emphasis in original).

111. *Id.*

Fontainebleau Hotel Corp. v. Forty-Five Twenty-Five, Inc.,¹¹² where the court directed dismissal of a complaint alleging that a fourteen-story addition to the Fontainebleau Hotel was maliciously situated so that in winter its shadow would extend over the swimming and sunbathing facilities of the Eden Roc Hotel from 2 P.M. onward. Again the court endeavored in vain to find a right upon which a shadow nuisance might be grounded: "[I]n the absence of some contractual or statutory obligation . . . a landowner has [no] legal right to the free flow of light and air across the adjoining land of his neighbor."¹¹³ The court reasoned that the rejection of the doctrine of ancient lights precluded the assertion of a common law right.

However, the conclusions drawn by the *Fontainebleau* and *Venuto* courts overlook the fact that ancient lights was and is simply a nonexclusive means by which a negative easement for the passage of light and air might be acquired. The doctrine speaks neither to sunshine nor to view, either as inherent or as acquired appurtenances of the tenement, so that logically the repudiation of ancient lights had no bearing on the land use issues actually before the courts. Furthermore, inasmuch as the negligence alleged in *Venuto* and the malice alleged in *Fontainebleau* were virtually ignored by the respective courts, these decisions deviate from the principles of nuisance articulated by the Restatement (Second) of Torts, which accords the defendant's state of mind a central role alongside reasonableness of conduct in the calculus of liability.¹¹⁴

B. *Hypersensitivity Defense*

Unfortunately, even where courts are willing to apply traditional nuisance standards to construction or other activities which unreasonably diminish sunlight, hypersensitivity may be a valid defense in many cases, particularly those involving solar collectors. Upon neutral principles, "there is no qualitative difference between a use that emits an externality and a use that is sensitive to that externality [B]oth impose costs on society, for both are needed to cause a conflict and both limit the use to which surrounding land can be put There is . . . a bias *against*

112. 114 So.2d 357 (Dist. Ct. App. Fla. 1959).

113. *Id.* at 359.

114. See RESTATEMENT (SECOND) OF TORTS § 822 (Tent. Draft No. 18, 1972).

sensitive uses in the present legal structure, because such users must take the plaintiff's role in nuisance actions . . . [, bearing] the expenses of bringing an action and the difficulties of meeting burdens of proof."¹¹⁵ The result is that apparently neutral liability rules developed under the maxim "sic utere tuo ut alienum non laedas" do not conduce to optimal resource allocation when socially valuable eccentrics such as the solar house pioneers suffer systemic prejudice by application of the hypersensitivity rule.

Evenhanded treatment of both parties in a shadow nuisance action could be achieved if hypersensitivity were regarded merely as an expression of comparative fault. It has been observed that "[i]n accident law the doctrine of contributory negligence is used to induce the victim to take precautions; the counterpart to contributory negligence in nuisance cases is the denial of relief where the plaintiff's land use activity is damaged due to its hypersensitivity to injury."¹¹⁶ However, a "basic reason for the hypersensitivity defense, superiority of the plaintiff's knowledge of the risk, is negated when the defendant is aware of the plaintiff's condition."¹¹⁷ Consequently, a knowing injury, such as that inflicted by the defendant in *Fontainebleau*, should give rise to liability, though damages would be limited if sunbathing were found a hypersensitive land use as regards sunlight.¹¹⁸

Hypersensitivity is not always a complete defense, for it can preclude liability only as to injury attributable in kind or extent to the plaintiff's hypersensitive use of land. For instance, "[a]n excavator was held strictly liable at common law for the external damage that his excavation would have caused had the neighboring land been in its natural state; he was liable only in negligence if part of the damage was caused by the weight of structures on the neighboring land. This distinction was developed in rural English society where lot sizes were rather large. Where land parcels are ample, neighbors who unnecessarily build near their lot lines and expose themselves to loss of lateral support are hypersensitive and deserve less favored legal treatment."¹¹⁹ These observations suggest that the substance of hypersensitivity, which is simply the reasonableness

115. Atwood, *An Economic Analysis of Land Use Conflicts*, 21 STAN. L. REV. 293, 314-15 (1969).

116. Ellickson, *supra* note 104, at 753.

117. *Id.* at 756.

118. *Id.*

119. *Id.* at 755-56.

test applied to the plaintiff, should keep pace with social and technological developments.

Precedents in nuisance case law are inconclusive as to the applicability of the hypersensitivity defense to actions brought against shadow perpetrators by thwarted solar energy users. Dictum in an English case, *William Cory & Sons, Ltd. v. The City of London Real Property Co.*,¹²⁰ suggests that hypersensitivity is a defense to a nuisance action grounded on a claim of ancient lights, although the language is ambiguous concerning the completeness of the defense: "an alteration of user or of internal construction, provided it is not for some unusual purpose, such as making the room a photographic studio, or some other purpose, requiring an unreasonable amount of light, does not affect the rights of the dominant owner. He is entitled to a shaft of light coming through his window" ¹²¹ One commentator¹²² has cited *Webb v. Bird*,¹²³ the windmill case, as an example of the application of the hypersensitivity defense. Although an examination of the opinion¹²⁴ discloses that at least verbally the decision did not rest on that ground, it is conceivable that the court perceived the asserted right of a windmill to ancient wind as an anachronistic intrusion upon the Industrial Age.

A leading American hypersensitivity case, *Amphitheatres, Inc. v. Portland Meadows*,¹²⁵ held that a drive-in motion picture operator was entitled to no relief from the floodlights of an adjacent horse racetrack, although they played upon the movie screen with the intensity of a full moon. The court held that the measure of a non-trespassory invasion such as unnatural light is its "effect upon . . . a normal person of ordinary habits and sensibilities,"¹²⁶ while the plaintiff was "abnormally sensitive to deleterious influences."¹²⁷ The weight of *Amphitheatres* as precedent for a decision where light hypersensitivity is replaced by shadow hypersensitivity is uncertain, but it is not encouraging to note that drive-in movie

120. Unpublished opinion, Chancery Division, 1954, printed as supplement to ANSTEY & CHAVASSE, *supra* note 18.

121. *Id.* at 11.

122. Ellickson, *supra* note 104, at 753.

123. 142 Eng. Rep. 455 (C.P. 1861), *aff'd.*, 143 Eng. Rep. 332 (C.P. 1863).

124. See notes 89-92 and accompanying text *supra*.

125. 184 Or. 336, 198 P.2d 847 (1948).

126. *Id.* at 349.

127. *Id.*

screens currently outnumber solar collectors by a factor of about ten to one.¹²⁸

Under current case law, a nuisance action is not likely to bring relief to a solar energy user injured by the shadow of a neighbor's tree or structure. However, if the equities all favored the solar energy user—*i.e.*, if the solar use were itself reasonably situated and predated the obstructing use, and if the latter use were motivated by malice—a court sympathetic to ecological considerations could find for the plaintiff.

C. *Statutory Nuisance*

An alternative to common law nuisance for shadow-imperiled solar collectors exists in the possibility of creating an appropriately defined statutory nuisance. Aside from the boundaries on statutory nuisance categories set by the applicable enabling act, the police power must be exercised within the constraints of due process. But the force of due process upon the expansion power is hardly clearer than the scope of common law nuisance doctrine. "The power cannot be exercised arbitrarily, or oppressively, or unreasonably. . . . [T]he legislature . . . cannot make anything, not in its nature a nuisance, a nuisance by mere declaration that it is so . . . [; however,] the courts generally follow the rule that it rests very largely within the province of the legislative body to prescribe what shall constitute a nuisance."¹²⁹ In other words, the legislature may, with considerable effect, choose to preempt the task of weighing the relative social utilities of incompatible activities. Courts are most receptive to the application of nuisance statutes in residential areas, especially in the absence of a zoning ordinance,¹³⁰ perhaps because statutory nuisance is a hybrid of zoning and nuisance law. Thus the legislative power to expand the scope of nuisance beyond its common law configurations may prove an effective device for securing rights to sunlight for solar collectors, although as a practical matter the power probably will remain unexercised until solar homeowners form a politically significant interest group.

Although the cases often ignore or obscure the distinction be-

128. U.S. DEP'T OF COMMERCE, STATISTICAL ABSTRACT OF THE UNITED STATES 1976 at 813 (1976); W. SHURCLIFF, SOLAR HEATED BUILDINGS: A BRIEF SURVEY (13th ed. 1977).

129. 66 C.J.S. *Nuisances* § 7(b), (c) (1950).

130. See *Cities Service Oil Co. v. Roberts*, 62 F.2d 579 (10th Cir. 1933) (ignoring statutory language limiting nuisance to an unlawful act).

tween public and private nuisance, it would seem that the power to declare a nuisance ought to be broader in the realm of public nuisance, where the legislature acts squarely under the police power. The difficulty of drawing the distinction can be considerable when the statute does not explicitly declare a public or a private nuisance. In *Pennsylvania Coal Co. v. Mahon*,¹³¹ the statute at issue prohibited anthracite coal mining to the extent that it caused "caving in, collapse, or subsidence, of, *inter alia*, "[a]ny . . . structure used as a human habitation."¹³² In holding the statute unconstitutional when applied so as to render worthless the reservation of undermining rights contained in a deed from the defendant coal company to the plaintiff, Justice Holmes weighed the private aspect of the statute in the balance alongside the extent of the taking. "This is the case of a single private house," he observed. "A source of damage to such a house is not a public nuisance even if similar damage is inflicted, on others in different places. The damage is not common or public."¹³³ In an apparently inconsistent dictum, Holmes added that the taking could have been achieved by eminent domain,¹³⁴ which implies that he considered that the taking was "for a public purpose." Justice Brandeis, dissenting, thought that "the purpose of a restriction does not cease to be public, because incidentally some private persons may thereby receive gratuitously valuable special benefits. Thus, owners of low buildings may obtain, through statutory restrictions upon the height of neighboring structures, benefits equivalent to an easement of light and air."¹³⁵ Although *Mahon* has not been overruled, surely the past half-century of zoning decisions have effectively upheld Brandeis' position that the public purpose required of a zoning ordinance can consist of an aggregate of undeniably private interests.

Were the Holmes view to prevail, it would be significant that the injurious external effects of a building shadow lie largely on the private side of the line. Deprivation of sunlight is a far more serious problem for dwelling units, offices, and solar energy collectors than for sidewalks and streets, the complaints of urban planners notwithstanding. Thus, in the unlikely event that excessive obstruction of insolation were declared a public nuisance, private parties who

131. 260 U.S. 393 (1922).

132. *Id.* at 393-94 n.1.

133. *Id.* at 413.

134. *Id.* at 416.

135. *Id.* at 417-18.

were actively utilizing solar energy would find little difficulty in showing the "special injury" needed to confer standing upon a private plaintiff to sue for relief from a public nuisance. However, the broad Holmesian view of private interests leaves only a vanishingly narrow area in which to define a public nuisance under which a private plaintiff could show exceptional harm.

IV. ZONING FOR INSOLATION

Zoning, in which the legislative body or its delegate specifies "shalls" and "shall nots" regarding land use, is not markedly different from statutory nuisance, except that zoning treatment is more comprehensive, and usually varies according to district. Since planning for the future must play a major role in facilitating the transition to solar buildings, the foresight of zoning ordinances now being enacted will be crucial to the pace, perhaps even to the success or failure, of the venture. Although a generation of houses may pass before domestic solar energy utilization hits full-stride, imaginative zoning ordinances throughout the period could provide an example to counter the observation that "mere 'regulation' if constitutional is not likely to be extensive enough to solve many pressing land use problems."¹³⁶ Historically, zoning for sunlight has progressed fitfully if at all, but recent enactments on the state and municipal levels have set promising examples for recognition of the open space and urban design requirements of solar energy use.

A. *New York City's Approach*

The evolution of New York City's zoning ordinance reflects the development of an appreciation for the social value of open space amenities, including sunlight, capable of embracing the planning and architectural needs of solar energy utilization. New York's nineteenth-century statute, relating permissible building heights to street widths, apparently had been abandoned by the time reliable elevators made high-rise construction possible. The need for modern land-use regulation was indicated by an ascending series of tall office buildings in downtown Manhattan, capped in 1915 by the Equitable Building, 500 feet tall and covering nearly 50,000 square feet.¹³⁷ Its noon shadow stretched over seven acres, "appropri-

136. Large, *This Land Is Whose Land? Changing Concepts of Land as Property*, 1973 WIS. L. REV. 1039, 1049.

137. N.Y. Times, May 24, 1914, at 3, col. 6; Note, *Development Rights Transfer in New York City*, 82 YALE L.J. 338 (1972); S. TOLL, ZONED AMERICAN 71 (1969).

at[ing] without payment the light and air of many neighboring land owners.”¹³⁸ Assessed valuations on many properties were reduced because the interference with light and air affected rentals.¹³⁹ The shadow had a galvanizing effect, uniting realtors and reformers in support of New York City’s trailblazing comprehensive zoning ordinance of 1916.¹⁴⁰ The ordinance presented a Euclidean zoning scheme consisting of various classes of residential, commercial, and industrial districts, with height and setback restrictions superimposed. The provisions directed to building bulk, the cause of harmful shadow externalities, on their face drew no differentiation among the specific burdens imposed by extravagant shadows. They sought “to secure adequate daylighting of buildings in downtown areas and to prevent congestion by putting limits on the size of skyscrapers,”¹⁴¹ with population density control a distant secondary concern at best.¹⁴² The historical importance of the ordinance with regard to sunlight lies in its general recognition that building size could be restricted for the purpose of limiting shadows.

Early references to sunlight, as opposed to light and air, are so rare that it can be surmised that sunlight was either taken for granted or else utterly inconceivable as a legal right. The genesis of the 1916 New York City ordinance indicates, although not unequivocally, that the former notion expressed the common sentiment. One commentator has reported a strange bit of legislative history which can be taken to imply that either ancient lights or a right to privacy was recognized in New York:

It was suggested at the time the New York City zoning ordinance was being formulated that no land owner should be permitted, except on payment to his neighbor for the privilege, to open windows giving on neighboring land unless sufficiently distant from it to allow a reasonable access of light and air over his own land. This was proposed not so much in justice to the

138. F. WILLIAMS, *THE LAW OF CITY PLANNING AND ZONING* 195 (1922). L. Horowitz, whose contracting firm built the Equitable Building, sounded a note of contrition when, years later, he spoke of “the immorality of uncommonly big buildings,” declaring that “an extraordinarily large building poaches sunlight and air from smaller neighbors.” S. TOLL, *supra* note 137 at 68.

139. S. TOLL, *supra* note 137, at 71.

140. *Development Rights Transfer in New York City*, *supra* note 137, at 342.

141. Comment, *Building Size, Shape and Placement Regulations: Bulk Control Zoning Reexamined*, 60 *YALE L.J.* 506, 508 (1951).

142. *Id.*

neighboring lot as to insure the supply of light and air for the lot itself. Buildings on the lot line often rent well for a while, and even sell well as a speculation; but ultimately become not only unprofitable but undesirable for the community.¹⁴³

The proposal echoed the preference expressed in the American lights cases for self-help as the means of securing the benefits of open space, and embodied the paternalistic notion that a deterrent might be necessary to discourage people from cutting windows imprudently close to the lot line without any means of preventing subsequent obstruction. It is unclear why the disincentive payment should go to the neighbor, unless the construction of such licensed windows would tend to damage the neighbor's estate by diminishing seclusion or by limiting development rights, as might eventually occur if the windows could gain ancient light status under New York law.

The suggestion was rejected, and the ordinance, as enacted, did not mandate access to direct sunlight. After conducting a painstaking review of the extensive empirical and theoretical research on planning and design for sunlight, George Ford, who had been in charge of the technical work of the New York Heights of Buildings Commission and its successor, the Commission on Building Districts and Restrictions, found that

there were so many other complicating features that it would be impracticable to try to use a definite quantitative minimum standard of light and sunlight in the zoning ordinance; that the best we could do, as a practical proposition, would be to try to approximate roughly a desirable standard by some much simpler and broader method of control. We also found that if we wished to assure the enactment of a zoning ordinance we would have to make concessions to existing conditions.¹⁴⁴

The same dilemma—the choice between complex formulae which accord primacy to the goal of assuring direct sunlight, at great cost to administrators and developers, and simple controls which achieve solar exposure only as an indirect and uncertain result—plagues city planners even today.

143. F. WILLIAMS, *supra* note 138, at 196.

144. G. FORD, *supra* note 73, at 67; *cf.* New York City Charter § 252-a (1914 amendment delegating zoning power to the board of Estimate and Apportionment): "Such regulations shall . . . includ[e], so far as conditions permit, provisions for adequate light, air, and convenience of access."

The 1916 ordinance underwent a major overhaul in 1961.¹⁴⁵ One of the principal changes was the institution of a system of floor area ratio [FAR] bonuses for open space, plazas, and arcades.¹⁴⁶ In 1960, the Planning Commission expressed confidence that the regulations would "prevent streets from becoming dark caverns, and insure exposure to the sky and a general feeling of openness at street level."¹⁴⁷ As a practical matter, the 1961 ordinance promoted vertical extension in construction, resulting in shadows which are long rather than wide. The FAR bonuses increased permissible building bulk, cancelling any ameliorative effects of the changed configuration of shadows. An additional negative factor was introduced in 1968 through the device of development rights transfer,¹⁴⁸ which seeks to facilitate the preservation of urban landmarks, but as a byproduct permits increased construction density.¹⁴⁹

In 1976, New York added a special permit option which is based on performance-oriented rather than prescriptive building design standards. The primary aims of the new ordinance,¹⁵⁰ dubbed Zoning for Housing Quality [ZHQ], are to render feasible multifamily residential construction on small lot assemblages, to ensure that a development will fit into its neighborhood, to define and enforce certain desiderata for humanistic residential designs, and to free architecture from the zoning envelopes which "produced structures in the form of wedding cakes" before the 1961 zoning resolution and "sheer towers with tiny, useless plazas in front of them"¹⁵¹ thereafter. Under ZHQ, the Planning Commission will grade proposed multifamily residential building designs based upon twenty-six weighted quality criteria, called "program elements," grouped

145. ZONING RESOLUTION OF THE CITY OF NEW YORK (1961).

146. The floor area ratio equals the total floor area (excluding certain types of facilities exempted by the ordinance) divided by the area of the building lot. Under the bonus system, the building can exceed the maximum floor area ratio otherwise permitted in the applicable zoning district by as much as twenty percent if desirable features are included in the development.

147. NEW YORK CITY PLANNING COMMISSION, REZONING NEW YORK CITY 34 (1959).

148. ZONING RESOLUTION OF THE CITY OF NEW YORK § 74-79 (as amended 1968).

149. *Development Rights Transfer in New York City*, *supra* note 137, at 339.

150. ZONING RESOLUTION OF THE CITY OF NEW YORK § 74-95 (as amended 1976) (set forth in Calendar No. 12 of the Board of Estimate of the City of New York, Feb. 5, 1976, No. 166, R-6150, at 129) [hereinafter cited as ZONING RESOLUTION].

151. Ellickson, *supra* note 104, at 695.

into four major categories, or "programs," comprising 25 points each. A passing score, 85 total points including at least 15 points in each program, will entitle the developer to a special permit granting the maximum FAR allowable for the applicable zoning district.¹⁵² Since 17.4 points are allotted to the three major program elements embracing sunlight, a building could conceivably be ineligible for a ZHQ special permit simply by being a disaster in terms of solar-compatible design.

Solar concerns are explicitly represented in every program except Security and Safety.¹⁵³ Under Neighborhood Impact,¹⁵⁴ satisfaction of the "offsite sunlight" program element, entailing minimization of shadows cast "on nearby residential and commercial buildings and open space as well as public parks, public sidewalks and public pedestrian malls,"¹⁵⁵ can earn up to 8.0 points.¹⁵⁶ The offsite sun-

152. Technically, § 74-95 establishes as a further prerequisite that the Commission make four specific findings, but those findings correspond so closely to the four programs that it can be anticipated that they will flow perfunctorily from a passing score. Indeed, any exceptions to such a pattern would give the Planning Commission strong cause to rethink the assumed equations relating the program elements to the program goals. Perhaps the findings are included on the theory that "[t]he annexation of proper standards to the special permit power supplies to some extent the requirement of a comprehensive plan." Stevens, *The Use and Abuse of the Special Permit in Zoning Law*, 35 BKLYN L. REV. 258, 267 (1969). See also MODEL LAND DEVELOPMENT CODE § 2-207 (Proposed Official Draft No. 1, 1974). At the same time, the specificity of the scoring system reduces costly uncertainty for the developer and avoids the "improprieties possible in completely *ad hoc* administrative determinations." L. McDougal, *Performance Standards: A Viable Alternative to Euclidean Zoning?*, 47 TULANE L. REV. 255, 260-61 (1973).

153. ZONING RESOLUTION, *supra* note 150, § 74-954.C.

154. *Id.* § 74-954.A.

155. *Id.* § 74-954.A.1.

156. *Id.* § 74-952. The formula purports to simulate actual shadows at 9 A.M., 12 noon, and 3 P.M. during the equinox. The projected shadow lengths are expressed as ratios of the building height: 1.5, 0.8, and 1.5. The corresponding azimuths are 57 degrees east of south, 0 degrees south, and 57 degrees west of south. The obvious intent to simplify calculations in order to blunt the objections of architects and developers to the difficulty of absorbing and applying ZHQ is achieved here, in the form of the fixed ratios, at the sacrifice of recognition of the effects of terrain upon actual shadow length. Cf. 1975 OR. LAWS ch. 153, § 4, (amending OR. REV. STAT. § 227.230(2) repealed, 1975 OR. LAWS ch. 767, § 10, enacting § 227.215 in lieu thereof) ("The Council may . . . regulate and determine the area of yards, courts and other open spaces having due regard of the use and occupancy of the land and may also consider the site slope and tree cover, with regard to solar exposure in such case"); *Brougher v. Board of Pub. Works of San Francisco*, 107 Cal. App. 15, 22, 290 P. 140, 143 (1930) ("[l]ooking to the securing of adequate supply of sunlight and to overcome obstruction against the diffusion of the same . . . a municipal regulation of maximum building height . . . [may] be addressed to and bear some relation to the physical peculiarities of . . . specific areas.").

light formulation did not reflect a concern for any particular mode of solar utilization,¹⁵⁷ but it did consciously embody a dislike for "stealing sunlight."¹⁵⁸ The Planning Commission's attempt to minimize the effect of the rejection of ancient lights is based upon the proposition that sunlight is among the "vested rights" of a real property owner.¹⁵⁹

Maximization of outdoor onsite sunlight, an element in the Recreation Space program,¹⁶⁰ is worth 5.5 points.¹⁶¹ The formula for onsite shadow area, using 9 A.M., noon, and 3 P.M. conditions during the equinox, is identical to that used for the offsite shadow area. Onsite sunlight is an example of ZHQ's quest for specific, applied definitions of usable space, in contrast to the old zoning, a "thorough abstraction" which called for "setbacks [which] had nothing to do with sunlight on site."¹⁶²

Under the Building Interior program,¹⁶³ 3.9 points can be earned by window placement and building orientation to assure sunlight in each dwelling unit.¹⁶⁴ Again, by focusing on achievement rather than form, the planners have devised a measure more sensitive than the familiar enactments establishing an "angle of light" or "sky exposure plane." A related 3.8-point program element, "window size,"¹⁶⁵ complements the "sunlight in dwelling unit" element, which merely specifies that "[s]unlight shall fall on the windows."¹⁶⁶ However, despite the purpose of window size to "maximize light, views and a feeling of spaciousness,"¹⁶⁷ nothing explicitly calls for any depth of sunlight penetration, so a rather dark apartment might satisfy the criteria. The "grumble line"—the English concept used as a standard for residual light in cases of partial obstruction of ancient lights and defined as the depth

157. "At the time that it was proposed, the whole science of solar energy was very primitive." Interview with M. Kwartler, Zoning for Housing Quality Project Co-Director, in New York City, (Feb. 11, 1976) [hereinafter cited as Kwartler Interview].

158. Interview with T. Flanagan, Zoning for Housing Quality Staff, in New York City (Jan. 27, 1976).

159. Kwartler Interview, *supra* note 157.

160. ZONING RESOLUTION, *supra* note 150, § 74-954.B.

161. *Id.* § 74-954.B.2.

162. Kwartler Interview, *supra* note 157.

163. ZONING RESOLUTION, *supra* note 150, § 74-954.D.

164. *Id.* § 74-954.D.2.

165. *Id.* § 74-954.D.3.

166. *Id.* § 74-954.D.2.

167. *Id.*

beyond which, on average, reading and business become unreasonably difficult—may be located quite close to the window and maximum scores for “sunlight in dwelling unit” and “window size” still be attained. The feasibility of using a solar cooker—a polished sheetmetal paraboloidal solar collector with a cooking pot suspended at the focus—would also be adversely affected by lack of sunlight penetration.

It is also unfortunate that the score for apartment sunlight is a function of the percentage of apartments whose largest living room receives at least three hours of sunlight between 8 A.M. and 4 P.M. during the equinox. Since this formula provides no incentive to design living rooms which almost satisfy the criterion, nor to orient other rooms for sunlight, the developer might tend to include some extremely bleak units, especially on the north side of the building. To the extent that prospective tenants value sunlight, a financial incentive may operate to countervail the failure of incentive in the scoring system. But heavy reliance should not be placed on consumer pressures, for the very premise of zoning, indeed of all regulations, is that the market has failed to serve social wants or equitable goals, due to monopolistic imperfections, maldistribution of wealth, insufficiency of information, or the presence of externalities.

The ZHQ approach is significant for its renunciation of zoning envelopes in favor of conscious tradeoffs among specific amenities resulting from architectural design. The desirability of sunlight indoors and outdoors is recognized, although particular uses were not contemplated. The suspension of lot coverage restrictions, combined with generous rewards for conformity to the height and facade of neighboring buildings, will tend to produce low buildings with broad lot coverage, a design conducive to rooftop solar energy capture. Eventually, ZHQ might be modified to include program elements intentionally rather than fortuitously helpful to solar utilization. Such elements could include roof exposure between southeast and southwest at all angles of solar elevation (for both the proposed building and its neighbors), structural reinforcement sufficient to support a rooftop solar collector, and absence of local ambient air pollution. Elements which encourage a uniform “street-wall” might be eliminated in favor of alternating setbacks on north-south streets.¹⁶⁸

168. See Comment, *supra* note 141, at 522.

B. *Constitutional Problems*

While the practical feasibility of construction under ZHQ is certainly enhanced by its flexibility, it should not be presumed that an explicit, isolated prescriptive norm could not be constitutional and workable. However, the pitfalls of a precipitous approach to enactment are evident in the experience of the City of Miami Beach, which sought to shape oceanside development so as to reduce severely the opportunity for shadowing neighboring properties without totally forbidding construction. In 1958, Miami Beach enacted a "Shadow Ordinance" as an emergency amendment to its building code¹⁶⁹ at the behest of the owner of the Eden Roc Hotel.¹⁷⁰ Shortly afterwards, the ordinance was held invalid on its face because it had been enacted without the notice and public hearing required by the applicable zoning enabling acts.¹⁷¹ The court found that the ordinance constituted zoning legislation in the guise of a building code amendment. The court ordered the issuance of a building permit based on the amended building plans submitted five days after the emergency enactment and rejected for noncompliance with the invalid ordinance.

In pertinent part, the invalidated ordinance read as follows:

Provided, however, that on lots fronting on the ocean no building shall be erected to a height in excess of thirty (30) feet, except that for each foot of the total number of feet that the building sets back from the ocean and/or sets back from the northerly property line, one-half (½) foot may be added to the height limit specified, not exceeding, however, the maximum height herein specified.¹⁷²

The trial court, in a dictum for which it was reprimanded by the Appellate Court, reached the statutory issue, ruling that the ordinance would be "arbitrary and unreasonable and have no relationship to the public safety, health, morals, comfort or general welfare."¹⁷³ However, it is probable that this questionable judgment resulted largely from the circumstances of the enactment, which by its timing took on the coloration of a special favor.¹⁷⁴ The ordi-

169. City of Miami Beach Ordinance No. 1312 (October 1, 1958).

170. See notes 112-13 and accompanying text *supra*.

171. City of Miami Beach v. State of Florida *ex rel.* Fontainebleau Hotel Corp., 108 So.2d 614 (Dist. Ct. App. Fla. 1959).

172. *Id.* at 615.

173. *Id.* at 619.

174. *But see* State *ex rel.* Klefisch v. Wisconsin Telephone Company, 181 Wis.

nance clearly sought to prevent new construction which would intercept undue amounts of the sunlight naturally incident upon oceanfront properties.¹⁷⁵ That sunlight contributes to public "health" and "welfare," as well as to "comfort," which the trial court saw fit to append to the usual police power formulation, is hardly debatable.¹⁷⁶

The fact that the Appellate Court specifically eliminated the trial court's substantive ruling in modifying the judgment below suggests that it might have reversed on the merits. The court in *Fontainebleau Hotel Corp. v. Forty-Five Twenty-Five, Inc.*¹⁷⁷ left the question open, declaring that

[i]f . . . public policy demands that a landowner in the Miami Beach area refrain from constructing buildings on his premises that will cast a shadow on the adjoining premises, an amendment of its comprehensive planning and zoning ordinance, applicable to the public as a whole, is the means by which such purpose should be achieved. (No opinion is expressed here as to the validity of such an ordinance, if one should be enacted pursuant to the requirements of law. . .).¹⁷⁸

Apparently, there is no good reason why an effective anti-shadow ordinance could not be enacted, broadly applicable so as to avoid the spot rezoning objection and sufficiently restrained so as to fall short of a constitutionally compensable taking of property.

The problem of zoning for solar energy differs contextually from the Fontainebleau-Eden Roc conflict because solar energy is still highly exotic, and even the current exponential rate of growth will not result in widespread usage for several years. Technological, so-

519, 195 N.W. 544 (1932) (upholding building height regulations despite apparent ad hoc legislative motive).

175. The City, sounding a note of self-criticism, had stated in its answer that it "for many years in the past had permitted the erection of buildings . . . without taking due consideration to the necessities for light, air and reflection of sunshine . . . which has resulted in unfavorable conditions. In order . . . to prevent the continued building of large structures which by their very nature would cast undue shadows upon the property to the north," the City adopted ordinances nos. 1312 and 1321, the latter differing little from the former except in awarding extra building height for setback from the bulkhead line rather than from the ocean. 108 So.2d at 618.

176. See, e.g., Comment, *supra* note 141, at 512; *Welch v. Swasey*, 193 Mass. 364, 79 N.E. 737, *aff'd* 214 U.S. 91 (1909); *Brougher v. Board of Pub. Works of San Francisco*, 107 Cal. App. 15, 290 P. 140 (1930); HARRISON, BALLARD & ALLEN, PLAN FOR REZONING THE CITY OF NEW YORK 127-30 (1950).

177. 114 So.2d 357 (Dist. Ct. App. Fla. 1959).

178. *Id.* at 360.

cial, and economic uncertainties multiply the difficulty and expense of preparing a detailed long-term comprehensive plan which recognizes the imperatives of solar energy. Constitutional property rights may also limit the foresight permissible in a zoning ordinance. For example, in *Arverne Bay Construction Co. v. Thatcher*,¹⁷⁹ the New York Court of Appeals, while upholding the denial of a developer's application for a variance to build a gas station in a vacant area zoned residential eight years earlier in accordance with a master plan subsequently thwarted by the Depression, held the ordinance a "taking," thus "effectively barr[ing] zoning for uses that could not be realized in a few years."¹⁸⁰ However, the case may be inapposite where economically reasonable uses are possible despite the restriction. At the other extreme, objections to the arbitrariness of variances and spot rezoning, and constitutional limitations on the state's power to destroy nonconforming building render zoning a relatively ineffective short-range tool.¹⁸¹ Somewhere in between the inefficiencies of rigid planning and the unfairness of favoritism, zoning compatible with the peculiar spatial requirements of solar energy collection apparatus, whether incorporated into new or retrofitted to old buildings, must blaze the way if the full potential of solar energy is to be realized in this era of energy source transition.

C. *The Oregon Example*

Oregon's recent zoning enabling act,¹⁸² despite the subsequent repeal of its most potent provision, represents a historic stride toward the goal of assertive land use legislation embodying an awareness of the requirements of solar energy utilization balanced against the interests of incompatible forms of development. The Oregon statute provides that "[a]ny comprehensive plan and all zoning, subdivision or other ordinances and regulations . . . shall [consider] . . . incident solar energy and utilization . . . and prospective needs for development and utilization thereof. . . ."¹⁸³

179. 278 N.Y. 222, 15 N.E.2d 587 (1938).

180. Large, *supra* note 136, at 1054-55.

181. Comment, *supra* note 141, at 507 n.5.

182. 1975 OR. LAWS ch. 153, § 1, (amending OR. REV. STAT. § 215.055), § 2 (amending OR. REV. STAT. § 215.110(2)), § 4 (amending OR. REV. STAT. § 227.230(2)), repealed 1975 OR. LAWS ch. 767, § 10, enacting § 227.215 in lieu thereof).

183. OR. REV. STAT. § 215.055(1) (1975).

Changing to a permissive voice, the statute states that “[t]he commission may . . . recommend to the county governing body ordinances . . . protecting and assuring access to incident solar energy. . . .”¹⁸⁴ The substantive thunderclap, however, was contained in the following mandatory section, since repealed: “The council shall not unreasonably restrict construction where site slope and tree cover make incident solar energy collection infeasible, except *an existing solar structure’s sun plane shall not be substantially impaired.*”¹⁸⁵

Thus the right to unobstructed sunlight for solar energy collectors was unambiguously asserted for the first time. The statute clearly established a tripartite framework for local development restrictions with solar energy utilization as the switching signal. If solar collectors or photovoltaic cells were in place, no substantial obstruction of useful sunlight would be tolerated. Where there is a feasible but unrealized prospect for solar energy utilization, comprehensive plans and ordinances may not slight that potential development. Finally, where vegetation and topography appear to preclude solar utilization, construction shall not be restricted on that account.

Although the Oregon statute concluded diffidently, “[t]he powers given in this section shall be so exercised as to preserve constitutional rights,”¹⁸⁶ there is every reason to believe that confidence rather than queasiness is in order. It is practically indisputable that the public health, safety, and welfare are served by reasonable regulations designed to promote solar energy and thereby dilute our dependence upon fossil fuels and nuclear energy.¹⁸⁷ Concededly this point is weak in communities distant from electric generation plants and their support systems, where solar homes will yield largely non-local environmental benefits. Nonetheless, substitution of labor and capital for fuel promotes local prosperity and national autonomy.

184. *Id.* § 215.110(2).

185. 1975 OR. LAWS ch. 153, § 4 (amending OR. REV. STAT. § 227.230(2), repealed 1975 OR. LAWS ch. 767, § 10, enacting § 227.215 in lieu thereof) (emphasis added).

186. *Id.*

187. For a close examination of the constitutionality of the creation of insolation rights through zoning, see Eisenstadt & Utton, *supra* note 16, at 379-84.

V. CONCLUSION

The zoning approach not only preserves our energy options for the future but also overcomes the obstacles inherent in other theories of rights to sunlight. Zoning can create rights to sunlight more swiftly and thoroughly than could the doctrine of ancient lights, although existing incompatible uses of land cannot be terminated overnight. Unlike privately granted easements and covenants, zoning can take the external benefits of solar energy into account, so that society collectively pays for the cleaner environment made possible by an individual homeowner's investment in a solar energy device. Unlike easements by implication or necessity, zoning faces an easy threshold test of justification under the state's power to promote the public health, safety, and welfare. And unlike nuisance, zoning can lay the groundwork for the installation of an arguably hypersensitive use of land, virtually unconstrained by the present value of unrestricted development. Thus zoning is the strongest tool available to establish rights to sunlight for existing and planned solar devices. Perhaps legislators should refrain from committing the government to direct involvement in solar energy development despite the scope and complexity of the technological, social, economic, and aesthetic problems encompassed,¹⁸⁸ but instead should undertake such measured reform of land use law as will draw the private sector solar industry into competition with the depletive energy systems heretofore favored.

Legal foresight can unblock the key avenues to healthy energy resource investment now emerging. Gradually, as resources become extinct, reliable alternative technologies such as wind and solar power must be developed for the mass market. In the 1970's, the United States has found itself squeezed between economic stagnation and environmental degradation, and has experienced the labor pains of the emerging environmental ethic. The transitional process will span decades, and it is neither too early nor too late to undertake a reformation of property entitlements to accommodate the ecologically durable energy sources of succeeding centuries.

David L. Bersohn

188. Cf. S. REP. NO. 847, 93d Cong., 2d Sess. 4, reprinted in [1974] U.S. CODE CONG. & AD. NEWS 5212, 5215.