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## A SOLAR RIGHTS ZONING GUARANTEE: SEEKING NEW LAW IN OLD CONCEPTS

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## I. INTRODUCTION

The use of sunlight for heat and power is a subject of much attention now,<sup>1</sup> although architects of the past often designed buildings to make best use of sunlight.<sup>2</sup> The Japanese house traditionally has been designed in conformance with precise calculations regarding the seasonal variations in the angle of the sun's rays.<sup>3</sup> The homes of the cliff-dwelling Indians of the American Southwest were protected from the overhead rays of the sun at midday, yet received direct sunlight as the sun dropped toward the horizon and the day cooled.<sup>4</sup> Modern architects are once again giving considerable attention in their designs to solar radiation.<sup>5</sup> Energy can be saved through attention both to desired solar access and to shade.<sup>6</sup>

The relative importance of sunlight and shade, and the best means to use them for light, heat, and cooking will obviously vary according to the latitude, local climate, terrain, and the presence of trees and shrubs. Because wind will strongly affect energy use, windbreaks may interact with these factors in determining the best orientation and design of a building to make maximum use of sunlight.<sup>7</sup> If special collecting devices are to be used to gather sunlight for heat and power, the factors affecting access to solar energy will be at least as complex as those faced by architects of the past, and the law governing access to sunlight will face correspondingly difficult questions.

This Article will consider the problem of protecting access to sunlight, only one of the legal problems posed by the prospect of expanded

1. Evidence of this abounds. A high percentage of all issues of such technically minded mass circulation magazines as *Popular Science* and *Popular Mechanics* during 1975 and 1976 contained at least one article on solar utilization, and the United States Department of Housing and Urban Development has an office devoted to solar utilization.

2. See, e.g., T. YOSHIDA, *THE JAPANESE HOUSE AND GARDEN* 15 (1955).

3. *Id.* Japanese courts recognize a "right to light" not only for interiors (via windows), but also for the entire lot (house and garden). A recent decision brought a settlement of nearly \$7,000 to a sandalmaker and three of his neighbors whose homes were placed into shade. In 1972 some 83 "sunshine suits" were brought in Japanese courts. See *Japanese Courts Back the "Right to Sunshine,"* N.Y. Times, July 18, 1976, at 10, col. 1.

4. See Reitze & Prezyna, *Utilizing Solar Power—The Institutional Challenges*, ENVTL COMMENT, April 1976, at 1.

5. See generally 2 J. FITCH, *AMERICAN BUILDING: THE ENVIRONMENTAL FORCES THAT SHAPE IT* (1972).

6. *Id.* at 57.

7. F. CHING, *BUILDING CONSTRUCTION ILLUSTRATED* 1-7 (1975).

use of solar energy.<sup>8</sup> Two areas of law may provide helpful analogies for the development of law protecting access to sunlight: The first potential analogy is to natural resources law dealing with naturally mobile resources such as water, oil, and natural gas. The second analogy is to the law of access to and limitations on use of real property—both in the sense of conventional human access (as by a path), and in regard to access to daylight for windows. The latter might at first appear to offer an exact counterpart to the problem of protecting access to solar radiation for solar collection panels. As we shall see, however, the relationship is not so close as it might initially seem. This Article will then consider existing and proposed statutes designed to protect solar access rights, and will conclude with a new proposal.

## II. SOLAR RADIATION AS A NATURAL RESOURCE

Solar radiation is natural and has value; therefore it is by definition a resource. But what sort of resource is it? It provides visibility, warmth, and the energy for photosynthesis at the foundation of the food chain and is the origin of fossil fuels as well as the cause of wind (which is also a source of energy).<sup>9</sup>

The full spectrum of the sun's rays which reach the earth has potential value, not merely the direct visible light. Sunlight dispersed by the atmosphere (indirect light) is of some importance, while the infrared portion of the spectrum, which can penetrate a cloud cover, is of substantial importance in the use of solar radiation for heating.<sup>10</sup> Solar radiation thus comes to the earth's surface even on cloudy days, and reaches all portions of the globe, but, like rain, varies greatly in intensity and frequency.

As a resource, solar radiation is more like the action of the rain—the movement of the water—than it is like the water itself. For solar radiation (despite ordinary terminology) cannot be “collected” (gathered and preserved in the same physical form) in the sense that rain-

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8. Some of these problems are: a) barriers to use of solar energy systems in building codes; b) jurisdictional labor disputes involving construction or installation of new solar systems; c) vandalism directed to solar collectors and the adequacy of current preventive and correctional methods; d) regulatory problems in regard to interaction between public utilities and privately generated electricity or other power from solar sources. See also notes 87-96 *infra* and accompanying text.

9. See generally F. DANIELS, *DIRECT USE OF THE SUN'S ENERGY* (1974); McCaull, *Windmills*, 15 *ENVIRONMENT*, Jan.-Feb. 1973, at 6.

10. See F. DANIELS, *supra* note 9, at 38.

water can be collected. The essence of sunlight, for practical purposes, is in its journey; its energy is transformed (and effectively ceases to exist when it is "stopped" or "absorbed." Some of it is "stopped" by the atmosphere, which is thereby warmed. Sunlight arriving at the earth's surface is either reflected or absorbed. Absorbed sunlight may be converted to chemical or electrical energy through plant photosynthesis,<sup>11</sup> photovoltaic electrical conversion (*e.g.*, solar cells),<sup>12</sup> or photochemical conversion.<sup>13</sup> Most commonly, and of greatest immediate economic importance, sunlight warms the object on which it falls.

Any surface exposed to solar radiation is heated to some degree. The heat thus caused normally is reradiated or conducted to the atmosphere and adjoining materials. The "solar collector," which is the essential part of any solar heating system, converts sunlight to heat and transports the heat energy to a storage device before it can be reradiated and "lost." In simplest terms, a solar collector is heated by the sun; and air, water or some other substance passes through it or next to it to absorb the heat and carry it where it can be better used or where it can be stored for later use.<sup>14</sup>

In practice solar collectors for heating usually employ tubes containing air or water, placed in a position exposed to sunlight.<sup>15</sup> Usually, these are contained within a dull black housing covered with glass or clear plastic so that the entering sunlight is largely absorbed or trapped beneath the glass as heat, as in a greenhouse. Many refinements are possible: glass with a one-way mirror facing inward (to reduce reflection and reradiation); reflectors of varying degrees of sophistication to concentrate additional sunlight; collectors that may be aimed at the sun's arc to permit ideal directional angles even for collection

11. The resulting plant product, of course, can be burned for heat.

12. Photovoltaic electrical conversion is the generation of an electrical current by the exposure of certain materials to light. *See* F. DANIELS, *supra* note 9, at 209-14.

13. Unlike photovoltaic conversion (in which no chemical change takes place), photochemical electrical conversion generates an electrical current through a chemical reaction caused by light, as in photosynthesis. The chemical reaction then reverses in darkness, and may take place again. This is still only a theoretical possibility, in contrast with photovoltaic conversion, a practical success in spacecraft but still not economically feasible in earth-bound applications. *See id.* at 214.

14. For a review of the possible techniques of collecting solar energy, *see, e.g.*, Tamplin, *Solar Energy*, 15 ENVIRONMENT, June 1973, at 16.

15. *See, e.g.*, collectors manufactured by KTA Corp., Rockville, Md.; other advanced collectors made by Calmac Mfg. Corp., Englewood, N.J. (flexible rubber, comparatively cheap); Ametek, Hatfield, Pa. (collector using unusual selective coating). Descriptions are available from the manufacturers or from Solar Industries Association, Suite 632, 1001 Conn. Ave., N.W., Wash. D.C. 20036.

systems on flat roofs.<sup>16</sup> A pump usually circulates the air or water, through the pipes where it is warmed, then down to a reservoir (sometimes just a bin of stones) where the hot material from the pipes releases its heat, and is circulated back to the collector to be warmed again. If air is used in the tubes, however, it may be released into the building to heat it. Many systems use water heated in the collector in radiators for heating or directly for bathing or cooking. The number of possible variations is immense, and many fine points affect the efficiency of different designs.<sup>17</sup> Further discussion would be outside the scope of this Article, but a brief summary of the claims made by manufacturers of various collectors<sup>18</sup> is relevant on a few points. Collectors must be exposed to direct sunlight for all but the lowest efficiency operation, but need not be tilted to face directly at the sun; horizontal collectors on flat roofs are as efficient as angled collectors, but may require more frequent cleaning. Exposure to direct sunlight during only a portion of the day may be sufficient for efficient operation; complete freedom from shadow is not required. In some cases, reflectors mounted some distance from a collector may focus sunlight on it, to increase the area from which sunlight is collected or to avoid the problems of shadows on the roof of a building on which collectors are installed. The latter may be a means to circumvent difficulties caused by new construction that would otherwise cast existing collectors into shade, and should be kept in mind as an alternative remedy in protecting existing solar access rights.

The possibility of redirecting sunlight through the use of reflectors shows that sunlight is a resource that can be transported for modest distances. Further attempts to subcategorize sunlight as a natural resource are interesting, but of doubtful legal utility. Is solar radiation a "renewable" or a "nonrenewable" resource? Actually, it defies categorization in this manner. It need not be "renewed" in the sense that renewable resources such as trees or trout must be renewed. Yet neither is it a nonrenewable resource, since *use* will not diminish it. Sunlight striking earth is exhausted in its transformation into heat, *whether or not* such heat is used by humans; it is the same if it heats the air within a house or the air outside it.

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16. A variety of devices is offered by the 40 members of the Solar Industries Association. See note 15 *supra*.

17. See note 15 *supra*.

18. See note 15 *supra*.

As a resource solar radiation bears some resemblances to air. Both are "free," and can be contaminated in different ways. Air can mix with harmful materials; the harmful portion of solar radiation (the ultraviolet part of the spectrum) can increase through destruction of the ozone layer of the atmosphere.<sup>19</sup> The usefulness of air to human beings can decrease through changes in the proportions of its composition (e.g., too little oxygen). The usefulness of solar radiation for heating purposes can be greatly reduced by air pollution that blocks visible light. Access to air is not normally a problem, however, and these comparisons should indicate only that solar radiation for heat and power is *not* precisely like any other resource; we should be cautious in attempting to treat it as a resource for legal purposes.

#### A. *The Water Resources Comparison*

*A river is more than an amenity, it is a treasure.*

—Justice Oliver Wendell Holmes, 1931<sup>20</sup>

*Since they [rivers] are the natural resources of heaven and earth, and are not produced by human power, they ought to be shared in common with all people.*

—Kung-yang, circa 2400 B.C.<sup>21</sup>

The law of water resources has been the subject of multivolume treatises,<sup>22</sup> yet for our purposes must be summarized in a few hundred words. Thus the generalizations which follow should properly be subject to numerous qualifications and exceptions which go unmentioned.

The traditional legal treatment of surface water resources in the eastern United States (where water is less scarce than in the West) has been a theory known as riparian rights.<sup>23</sup> In briefest form, this meant that owners of land that abutted rivers, streams and to a lesser extent lakes (under a similar concept called littoral rights) could withdraw whatever water they wished, for any purpose they wished, while those who did not own such land were prohibited from withdrawing water.<sup>24</sup>

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19. Gates, *Weather Modification in the Service of Mankind: Promise or Peril?*, in *THE ENVIRONMENTAL CRISIS* 33 (H. Helfrich ed. 1970).

20. *New Jersey v. New York*, 283 U.S. 336, 342 (1931).

21. COMMENTARY ON THE SPRING AND AUTUMN BOOK OF CONFUCIUS.

22. See, e.g., *WATERS & WATER RIGHTS* (R.E. Clark ed. 1970) (in seven volumes).

23. 7 *id.* §§ 610-13.

24. *Id.* §§ 614.1-3.

Inroads developed in this system from two directions: one was the developing competition due to increased population density for the available water; the other was the increasing role of the public use of water, both for consumptive (e.g., household) and nonconsumptive (e.g., transportation) uses.<sup>25</sup> The result of these pressures was the development of standards of "reasonable use" with regard to downstream riparian owners,<sup>26</sup> and an active role for local governments or special water districts in condemning or purchasing consumptive water rights for the general citizenry. State statutes assured access to nonriparians for shipping.<sup>27</sup> Deficiencies in this riparian rights system appear when the demand for water exceeds the supply. Use of water in amounts and for purposes that will satisfy a test of "reasonableness" at one time may not do so somewhat later, literally even overnight, if water levels drop precipitously. Lawsuits are an unsatisfactory means of settling disputes during a sudden shortage. Even if a determination in one dispute can timely resolve a temporary problem case-by-case decisions will not necessarily assure a water supply, nor even provide a coherent legal approach, during an unforeseen drought. Prior standards of priorities of use in times of shortages may work reasonably well when shortages are fairly rare, but if demand greatly exceeds supply, the riparian rights systems may become unworkable. The expansion of water-consumptive uses by electric power plants and other industrial facilities has forced many eastern states to reconsider their traditional modified riparian water rights systems, and some now apply selected aspects that have been used in the "appropriation doctrine" states.<sup>28</sup>

The appropriation doctrine is the basic legal theory of water resource allocation in the western states. It rests on the principle that

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25. See Geigler, *Water Use Under Common Law Doctrines*, in *WATER RESOURCES AND THE LAW* 49, 70-72 (1958).

26. See *Stratton v. Mt. Hermon Boys' School*, 216 Mass. 83, 103 N.E. 87 (1913).

A proprietor may make any reasonable use of the water of the stream in connection with his riparian estate and for lawful purposes within the watershed, provided he leaves the current diminished by no more than is reasonable, having regard for the like right to enjoy the common property by other riparian owners.

*Id.* at 88-89, 103 N.E. at 89.

27. See J.K. ANGELL, *A TREATISE ON THE LAW OF WATERCOURSES* 702-15 (J. Perkins ed. 1877).

28. The first steps in this direction were the "mill statutes" giving mill owners prescriptive rights and powers of eminent domain. See *id.* at 637-76. Current statutes are collected in F. TRELEASE, *CASES AND MATERIALS ON WATER LAW, RESOURCE USE AND ENVIRONMENTAL PROTECTION* 455-56 (2d ed. 1974).

whoever first begins to use ("appropriates") a source of water is entitled to continue such use at the same rate.<sup>29</sup> This applies without regard to riparian ownership.<sup>30</sup> All states now require certain procedures to establish this right,<sup>31</sup> and some states issue permits for specific rates of water use at particular times of the year.<sup>32</sup> An administrative body or water master may be required not only to determine the validity of claims of established use, but also to establish priorities<sup>33</sup> (e.g., drinking water ahead of irrigation), although the general rule is still first-come, first-served.<sup>34</sup> Thus, in both the riparian and appropriations states, there is a trend to limit property rights from absolute priority rights, at least in times of shortage. The principal benefit of the appropriation doctrine system is that it is relatively more certain. Despite the imposition of drought priorities, an established water user in western states has little fear that later demands for the water downstream will be given equal weight with his established use.<sup>35</sup> There is no requirement for those with prescriptive rights to water to share the water supply with those who later may wish to use it. This legal certainty obviously adds greatly to the value of land possessing such water rights; in many cases such land might be almost worthless without such legally assured rights. An additional advantage of the appropriation doctrine system is that when priorities must be set, a water master can do so with an overall view of the problem, rather than a court trying to determine "reasonable use" in an isolated instance.<sup>36</sup> Details of the application of the appropriation doctrine and the permit systems (where they exist), as would be expected, differ considerably among the 17 western states.<sup>37</sup>

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29. See F. MALONEY, R. AUSNESS, & J. MORRIS, A MODEL WATER CODE WITH COMMENTARY 156 (1972) [hereinafter cited as MALONEY].

30. Riparian doctrine of the common law was based on the private ownership of land bordering streams. The division of the public lands of the western states, largely by appropriation, required a different body of law. *Irwin v. Phillips*, 5 Cal. 140, 140-41 (1855).

31. See, e.g., IOWA CODE ANN. § 455A (1971).

32. See, e.g., *id.* § 455 A.28 (3).

33. See MALONEY, *supra* note 29, at 157.

34. *Id.*

35. *Id.*

36. See, e.g., IOWA CODE ANN. § 455A (1971); cf. MODEL WATER USE ACT § 407(d) (1958).

37. For a summary of the terms of the statutes, see MALONEY, *supra* note 29, at 156-62.

Even from this brief and overgeneralized account, it should be apparent that water resources law offers several possible approaches to allocating a flowing natural resource which, like sunlight, is frequently blocked (or diverted) by property owners "upstream." Among these concepts are:

- a) [from the appropriation doctrine] the allocation of rights on a first-to-use basis;
- b) [from riparian rights theory] the right of all property owners with access to the flow to make reasonable use, even if this means a reduction in the possible use by a prior "downstream" user;
- c) [from both modern appropriation and riparian theory] setting priorities among various uses of the resource as a permissible limitation on resource or real property use;
- d) [from both systems] condemnation of the resource for public use;
- e) [from appropriation states] resource boards or masters replace the court system in solving problems of resource allocation, once a legislative body has established the rules.

Water-use law also suggests that government regulation of a resource already in use may disturb existing property rights. To the extent sunlight and flowing water are similar, no constitutionally protected property rights prevent state regulation. The United States Supreme Court upheld state regulation of water use under the police power in *Connecticut v. Massachusetts*,<sup>38</sup> rejecting the argument that each riparian owner had a vested right to water flow. The Court upheld the power of a state to allocate flowing waters for such purposes as it may deem wise.<sup>39</sup>

The existence of proprietary rights to water, and the extent to which state law protects them, is a difficult question generally beyond the scope of this Article. Proprietary rights may exist in groundwater under some circumstances in some jurisdictions, but the general rule for surface water is that the right is merely one of usufruct.<sup>40</sup>

The question of proprietary versus usufructuary interest is occasionally significant. "For so long as proprietary rights can be asserted in the principal sources of stream flow, the public usufructuary rights in the watercourses themselves are very tenuous, existing only by the

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38. 282 U.S. 660 (1931).

39. *Id.* at 670.

40. See 6A AMERICAN LAW OF PROPERTY §§ 28.61-63 (A. Casner ed. 1954).

grace of the upper basin landowners."<sup>41</sup> Considerable flexibility in characterizing property rights in flowing water is therefore possible, and superiority of proprietary to usufructuary rights can be used to justify varied degrees of public control.<sup>42</sup> Commentators have called for a more frank recognition of the policy reasons for the priorities assigned to different uses of water.<sup>43</sup> The following passage indicates the limitations of traditional common-law categories and suggests an approach that may be equally useful in allocating access to sunlight:

By forcing individual claimants of water to press their claims on the merits of the particular uses desired to be made, rather than by reliance on tradition, custom, or precedent, a more rational law of water uses might be fashioned. By highlighting the basic truism that all allowed uses of water achieve their status only because they are thought at the time to be in the social interest, such a distribution of power might create an attitude more receptive to new adjustments of power that changed circumstances dictate.<sup>44</sup>

### B. *Oil and Gas Law Analogies*

Another body of law that offers potentially useful legal concepts for adaptation to preserving access to sunlight is oil and gas law.<sup>45</sup> Modern American oil and gas law seeks to maximize long-term production from deposits;<sup>46</sup> the opportunity to extract oil or gas is distributed in proportion to property ownership of mineral rights under areas of land surface.<sup>47</sup> Regulation is necessary because of the "fugacious" or migratory characteristics of underground oil and gas, which move toward low-pressure areas created by drilling. Extraction at one point from a pool will lower reserves in all portions of the common pool beneath adjoining property. This fact originally forced land owners to drill as many holes as possible to extract oil or gas before neighbors could get to it. This not only benefited one land owner at the expense of others, but was also wasteful because many wells in a small area led to a quicker

41. *Id.* § 28.61, at 186.

42. *Id.* at 186-87.

43. *See, e.g.*, G. WAITE, A FOUR-STATE COMPARATIVE ANALYSIS OF PUBLIC RIGHTS IN WATER 1 (1960).

44. *Id.*

45. *See generally* H. WILLIAMS & C. MEYERS, OIL & GAS LAW (abr. ed., 1975 rev.).

46. *See, e.g., id.* at 593-99 (small tracts may be allowed or required to combine drilling to maximize production from a pool).

47. *Id.* at 13-17.

drop in the pressure needed to extract the oil, and total production generally was much less than if a few wells had been used to effect the extraction over a greater period of time.<sup>48</sup>

In the leading case of *Elliff v. Texon Drilling Co.*,<sup>49</sup> the Supreme Court of Texas summarized the state's law in this area. *Elliff* was a suit for damages against a landowner sharing a common oil and gas pool. The defendant allegedly was negligent in permitting a well to blow out, resulting in a fire that lasted for several years and deprived the neighboring plaintiff of his rightful share of the pool. The Texas court had this to say:

[O]ur attention will be confined to the sole question as to whether the law of capture absolves respondents of any liability for the negligent waste or destruction of petitioners' gas and distillate. . . .

We do not regard as authoritative the three decisions by the Supreme Court of Louisiana to the effect that an adjoining owner is without right of action for gas wasted from the common pool by his neighbor, because in that state only qualified ownership of oil and gas is recognized, no absolute ownership of minerals in place exists, and the unqualified rule is that under the law of capture the minerals belong exclusively to the one that produces them. . . .

In Texas, and in other jurisdictions, a different rule exists as to ownership. In our state the landowner is regarded as having absolute title in severalty to the oil and gas in place beneath his land. [citations omitted]. The only qualification of the rule of ownership is that it must be considered in connection with the law of capture and is subject to police regulations. [citation omitted]. The oil and gas beneath the soil are considered a part of the realty. Each owner of land owns separately, distinctly, and exclusively all the oil and gas under his land and is accorded the usual remedies against trespassers who appropriate the minerals or destroy their market value.

[There is still some disagreement about the character of oil and gas ownership.] However, as was said by Professor A. W. Walker, Jr., of the School of Law of the University of Texas: "There is no oil or gas producing [*sic*] state today which follows the wild-animal analogy to

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48. *Id.* at 10-11. Wasteful practices were protected by the "rule of capture":

If an adjoining owner drills his own land and taps a deposit of oil or gas, extending under his neighbor's field, so that it comes into his well, it becomes his property.

*Brown v. Spilman*, 155 U.S. 665, 670 (1895). See 1976 WASH. U.L.Q. 148, 150-55.

49. 146 Tex. 575, 210 S.W.2d 558 (1948).

its logical conclusion that the landowner has no property interest in the oil and gas in place.”

. . . .

Thus it is seen that, notwithstanding the fact that oil and gas beneath the surface are subject both to capture and administrative regulation, the fundamental rule of absolute ownership of the minerals in place is not affected in our state. In recognition of such ownership, our courts, in decisions involving well-spacing [to permit maximum long-term output] of our Railroad Commission [which in Texas regulated the oil and gas industry], have frequently announced the sound view that each landowner should be afforded the opportunity to produce his fair share of the recoverable oil and gas beneath his land, which is but another way of recognizing the existence of correlative rights between the various landowners over a common reservoir of oil or gas.<sup>50</sup>

The Texas courts viewed fugacious minerals as a variety of real estate, rather than as a species of wild animal subject to capture; this allowed the courts to use the real-property concept of waste to prevent dissipation of the resource:

The fact that the owner of the land has a right to take and to use gas and oil, even to the diminution or exhaustion of the supply under his neighbor's land, does not give him the right to waste the gas. *His property in the gas* underlying his land *consists of the right to appropriate the same, and permitting the gas to escape* into the air is not an appropriation thereof in the proper sense of the term.<sup>51</sup>

The analogy with sunlight is once again apparent, if imperfect. As in the case of water use, it is possible to apply either a rule of capture (appropriation) or to view sunlight as a resource appurtenant to the real property on which it falls, a kind of “superficial” resource analogous to underground minerals. The law of fugacious minerals shows that courts must recognize some rights other than those deriving from first capture in order to prevent waste. The owner of one parcel may entirely appropriate or waste the sunlight above an area, like a pool of oil or gas beneath it. Tall structures may block the light without using any of it, an act analogous to the waste of natural gas. The common “pool” of sunlight can be most efficiently used only if it is apportioned among the several owners of property with access to it.

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50. *Id.* at 579-82, 210 S.W.2d at 560-62.

51. *Id.* at 583, 210 S.W.2d at 563 (emphasis added), *citing* Annot., 85 A.L.R. 1154, 1156 (1933).

### III. SOLAR RIGHTS IN TRADITIONAL REAL PROPERTY LAW

Sunlight may be thought of as part of the property it strikes. There is no clear-cut dividing line between this and the view of sunlight as a resource. The oil and gas law analogy, for instance, draws on traditional aspects of property law such as waste; oil and gas law is a specialized form of real property law, and this section will therefore overlap the preceding to some extent.

#### A. *Easements and Related Concepts*

A large body of common law involves access across others' land for various purposes,<sup>52</sup> and a long series of cases involves preserving window access to daylight.<sup>53</sup> The early English cases did not recognize any right to receive the direct rays of the sun, as distinct from rights to ambient light.<sup>54</sup> The cases dealing with access to sunlight concern only window light, required for visibility indoors.<sup>55</sup> Light under these circumstances would not likely be considered an economic use, despite the possibilities under English law for the payment of compensation as relief.<sup>56</sup>

Easements are limitations enforceable in law that diminish the rights associated with one parcel of land (the servient tenement) for the benefit of another parcel of land (the dominant tenement).<sup>57</sup> Similar restrictions may benefit a person rather than a parcel of land (an easement in gross).<sup>58</sup> Courts of equity recognize a parallel system of rights, called servitudes.<sup>59</sup> Various terms, such as rights-of-way, quasi-easements or restrictions on land use may be used either to distinguish separate rights from true easements and servitudes, or simply as alternate terminology for easements and related concepts. The present discussion is limited to easements and is intended solely to investigate the

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52. See, e.g., W. FINCH, *SELECTED CASES ON THE LAW OF PROPERTY ON LAND* 788-856 (2d ed. 1920).

53. See generally B. ANSTEX & M. CHAVASSE, *THE RIGHT TO LIGHT* (1963).

54. *Id.* at 3.

55. See, e.g., *William Aldred's Case*, 9 Co. Rep. 57b, 77 Eng. Rep. 816 (K.B. 1611).

56. See *id.*

57. See 2 *AMERICAN LAW OF PROPERTY*, *supra* note 40, § 8.4, at 231-32.

58. *Id.* at 235-36.

59. See, e.g., Reno, *The Enforcement of Equitable Servitudes in Land*, 28 VA. L. REV. 951 (1942).

distinction between rights of access that are contractual and personal, and those that "run with the land."

Many types of easements are possible, and several sorts are quite commonplace.<sup>60</sup> The most familiar permit utility lines or pipes to cross or simply enter upon, over or under the surface of land not owned by the utilities. While it is sometimes said that every easement requires a dominant as well as a servient tenement,<sup>61</sup> in the United States utility rights-of-way are true easements in favor of a person; there is no dominant tenement.<sup>62</sup>

A basic division among easements is between affirmative easements and negative easements: The former involve access to the land limited by the easement;<sup>63</sup> the latter involve only a limitation on use of the servient tenement.<sup>64</sup> An affirmative easement might consist of a right to lay a pipe across the servient tenement, or to drive across it. Such easements can sometimes be created by open and unpermitted use for a period of years—that is, by prescription or adverse use.<sup>65</sup> The easement for light and air exemplifies the negative easement, a right to prohibit on the servient tenement construction that would block the natural passage of light and air to the dominant tenement. Negative easements of this kind cannot be created by prescription; since there is no "adverse use" of the servient tenement simply by enjoyment of the use of light on the dominant tenement, no right to the creation of such a negative easement by prescription is recognized today in the United States,<sup>66</sup> although the English common law did recognize an easement to light through implication or prescription.<sup>67</sup>

60. See 2 AMERICAN LAW OF PROPERTY, *supra* note 40, §§ 8.1-108, at 225-314.

61. See *Hawkins v. Rutter* [1892] 1 Q.B. 668.

[I]n strictness, and according to the proper use of legal language, the term 'easement' does imply a dominant tenement in respect of which the easement is claimed, and a servient tenement upon which the right claimed is exercised.

*Id.* at 671.

62. See, e.g., *Gelfine v. Thompson*, 76 Ohio App. 64, 62 N.E.2d 590 (1945) (gas pipeline easement is in gross; alienable).

63. See 2 AMERICAN LAW OF PROPERTY, *supra* note 40, § 8.11, at 236.

64. *Id.* § 8.12, at 236-37.

65. *Id.* §§ 8.44-46, at 264.

66. No American decision has been cited, and independent research has revealed none, in which it has been held that—in the absence of some contractual or statutory obligation—a landowner has a legal right to the free flow of light and air across the adjoining land of his neighbor.

*Fontainebleau Hotel Corp. v. Forty-Five Twenty-Five, Inc.*, 114 So. 2d 357, 359 (Fla. 1959). See also *Parker & Edgerton v. Foote*, 19 Wend. 309 (N.Y. Sup. Ct. 1838).

67. An early case following the English common law doctrine of ancient lights,

Easements to light and air created by contract or conveyance are universally recognized in the United States.<sup>68</sup> They may be placed in deeds when property is sold, established by city ordinance, or created through contract between a landowner and others.<sup>69</sup>

### 1. *The Doctrine of Ancient Lights*

*William Aldred's Case*,<sup>70</sup> decided in 1611, held that a right to daylight had been acquired through long use. Under the "doctrine of ancient lights," the court could order compensation for excessive reduction in natural light to a window if the owner or his predecessors in ownership had used that source of daylight in the building's interior without interruption for a period of time "whereof the memory of man runneth not to the contrary."<sup>71</sup> The period was potentially variable, but presumably could extend to the outer limit set by statute which was the beginning of the reign of Richard the Lion-Hearted in 1189.<sup>72</sup> In practice, a period of 30 to 40 years was generally used, shortened to 20 years by the Limitation Act of 1623,<sup>73</sup> and lengthened to 27 years by the Right of Light Act of 1959.<sup>74</sup>

The test under the doctrine of ancient lights of excessive reduction of daylight was applied at the scene by a jury. On a day with "full daylight" (the rule was no more precise than this), the jury was asked to decide whether an average person in the better-lit half of the room would wish artificial light to carry on his work as usual. This legal standard became known as the "grumble test," and was no more scientific than its name, despite later efforts to make it more objective through various methods of calculation or measurement.<sup>75</sup>

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*Clawson v. Primrose*, 4 Del. Ch. 643 (1873), was overruled in 1939 by *Lynch v. Hill*, 24 Del. Ch. 86, 6 A.2d 614 (1939). No American jurisdiction presently finds a vesting of rights to daylight absent a specific agreement.

68. "It is universally assumed, without controversy, that easements of light, air, and view may be created by express grant." Annot., 142 A.L.R. 467, 468 (1943).

69. *Id.*

70. 9 Co. Rep. 57b, 77 Eng. Rep. 816 (K.B. 1611).

71. *Id.* at 58b, 77 Eng. Rep. at 820-21.

72. See B. ANSTEY & M. CHAVASSE, *supra* note 53, at 6.

73. 29 James I, c.16 (1623). This was incorporated into the successor act, The Prescription Act of 1832, 2 & 3 Will. 4, c.71, § 3, and was then replaced by The Rights of Light Act of 1959, 7 & 8 Eliz. II, c.56.

74. 7 & 8 Eliz. II, c.56 (1959).

75. See, e.g., *Ough v. King* [1967] 3 All E.R. 859, which affirmed the trial court's ruling that the standards for the "grumble test" could vary with the times, and that adequate illumination at one time might not be so considered today. Earlier modern

## 2. *Common-Law Rights to Light In the United States*

The British doctrine of ancient lights has been rejected in the United States.<sup>76</sup> In the absence of an express agreement or conveyance, therefore, the owner of property generally has no common-law right of access to sunlight. The theory of spite-fence cases has occasionally been argued to prohibit construction of a fence or wall that would block sunlight from an adjoining structure,<sup>77</sup> but the courts regularly reject this approach.<sup>78</sup> Nor have courts been willing to find an easement for light created by prescription or implication.<sup>79</sup>

Several states have reacted to the harshness of the common law in this field by creating statutory remedies. Massachusetts, for instance, has enacted a version of the spite-fence doctrine:

A fence or other structure in the nature of a fence which unnecessarily exceeds six feet in height and is maliciously erected or maintained for the purpose of annoying the owners or occupants of adjoining property shall be deemed a private nuisance. Any such owner or occupant injured in the comfort or enjoyment of his estate thereby may have an action of tort for damages under chapter two hundred and forty-three.<sup>80</sup>

It may also be that, despite the rejection of the spite-fence doctrine and easement theories by appellate courts, numerous suits are threatened or brought in lower courts on some version of these theories. The threat of such suits, and the statutes that have been enacted, provide a small measure of protection to the property owner seeking to

cases noting variable factors are *Horton's Estate Ltd. v. James Beattie Ltd.* [1927] 1 Ch. 75; *Fishenden v. Higgs & Hill, Ltd.* [1935] All E.R. 435. A brief but useful summary of British law on the subject is Wilkinson, *Law of Easements: Let There be More Light*, 118 THE NEW L.J. 7 (1968). See also the detailed treatment of the technical problems of measurement in the latter half of B. ANSTEY & M. CHAVASSE, *supra* note 53.

76. *Fontainebleau Hotel Corp. v. Forty-five Twenty-five, Inc.*, 114 So. 2d 357, 359 (Fla. 1959).

77. See, e.g., *Norton v. Randolph*, 176 Ala. 381, 58 So. 283 (1912); *Parker & Edgerton v. Foote*, 19 Wend. 309 (N.Y. Sup. Ct. 1838).

78. See *Maioriello v. Arlotta*, 364 Pa. 557, 73 A.2d 374 (1950); *Cohen v. Perrino*, 355 Pa. 455, 50 A.2d 348 (1947). In *Cohen*, the court ruled that an owner may erect upon his own land a building that obstructs the light, air and view of an adjoining owner, even though the building serves no useful purpose and is erected solely to annoy the owner of the adjoining property and to interfere with his use and enjoyment of the land. This extreme position for an American jurisdiction accords with the English position when the doctrine of ancient lights does not apply. See Rumble, *Limitations on the Use of Property by Its Owner*, 5 VA. L. REV. 297, 306 (1918).

79. See note 76 *supra* and accompanying text.

80. MASS. ANN. LAWS ch. 49, § 21 (1966).

assure his access to sunlight. Even the most extensive common-law easements, or the spite-fence doctrine, however, would protect only a minimum measure of interior illumination.<sup>81</sup> Enough light to work indoors during bright days is generally available in American housing; in any case, such protections fall far short of what would be needed to assure access to the economic values of outdoor direct sunlight, falling on a solar collector.

Some common-law theories remain to be tested. Plaintiffs have alleged trespass in suits to abate air pollution, with limited success.<sup>82</sup> The intrusion of a shadow cast by structures on adjoining property might also, conceivably, be treated as a trespass, or a private nuisance. No cases have been reported on a trespass or a nuisance theory. Either would raise serious objections by asserting a kind of absolute right to access to sunlight.<sup>83</sup>

### B. *Building Codes and Zoning Regulations*

The most significant regulation of access to sunlight comes from a complex set of regulations and ordinances including building codes, setback requirements, and general zoning provisions for use and population density. In upholding a zoning regulation that barred apartment buildings from an area of single-family residences, the United States Supreme Court, in *Village of Euclid v. Ambler Realty Co.*,<sup>84</sup> found the zoning within the police powers of the state:

in such sections very often the apartment house is a mere parasite, constructed in order to take advantage of the open spaces and attractive surroundings created by the [presumably single-family, detached homes] residential character of the district. Moreover, the coming of one apartment house is followed by others, interfering by their height and bulk with the free circulation of air *and monopolizing the rays of the sun* which otherwise would fall upon the smaller homes . . . .<sup>85</sup>

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81. See notes 55-56 *supra* and accompanying text.

82. *Reynolds Metals Co. v. Lampert*, 316 F.2d 272 (9th Cir.), *aff'd on rehearing*, 324 F.2d 465 (9th Cir. 1963), *cert. denied*, 376 U.S. 910 (1964); *Arvidson v. Reynolds Metals Co.*, 236 F.2d 224 (9th Cir. 1956), *cert. denied*, 352 U.S. 968 (1957); *Fairview Farms Inc. v. Reynolds Metals Co.*, 176 F. Supp. 178 (D. Ore. 1959); *Martin v. Reynolds Metals Co.*, 221 Ore. 86, 342 P.2d 790 (1959), *cert. denied*, 362 U.S. 918 (1960).

83. See notes 119-25 *infra* and accompanying text.

84. 272 U.S. 365 (1926).

85. *Id.* at 394 (emphasis added).

The landmark *Euclid* case showed a perhaps antiquated and class-prejudiced view of apartment houses, but recognized the role of sunlight in building restrictions. Courts continue to recognize the dual nature of height regulations as a restriction on density of use as well as a device to protect access to light and air.<sup>86</sup> These cases have considered sunlight a health benefit and an amenity, but the courts have not ignored economic values in this respect, an overriding consideration in the case of solar rights for energy.

Height regulation alone, of course, will not ensure a fixed amount of access to natural light, even on flat ground. "The height of the proposed buildings cannot be the sole consideration on this question but rather the spacing between the buildings."<sup>87</sup> Variances or prepared "light angle" setback requirements may thus provide for greater height for buildings constructed at greater than the normal distance from the property lines. Courts uphold zoning variances to accomplish this:

It would be difficult, we think, to maintain that the purpose of protecting the light and air of the neighboring properties was defeated by a variance granted upon terms protecting such light and air better than it would have been protected if a building had been constructed on the same site in strict accord with the Regulations, without any variance at all.<sup>88</sup>

Thus, purpose is reasonably placed ahead of mere mathematical regulation, a point to remember in drafting acts intended to protect access to sunlight.

Because zoning statutes and regulations derive their authority from the police power of the state, they often contain language referring to public health and safety.<sup>89</sup> In upholding zoning regulations in *Euclid*, the Supreme Court used language that created a vague impression of health: ". . . the free circulation of air . . . rays of the sun . . . ."<sup>90</sup>

86. See, e.g., *Chicago City Bank & Trust Co. v. City of Highland Park*, 9 Ill. 2d 364, 137 N.E.2d 835 (1956); *Sisters of Bon Secours Hospital v. City of Grosse Pointe*, 8 Mich. App. 342, 154 N.W.2d 644 (1967).

87. *Hendlin v. Fairmount Constr. Co.*, 8 N.J. Super. 310, 326, 72 A.2d 541, 549 (Ch. 1950).

88. *Loyola Federal Savings & Loan Ass'n v. Buschman*, 227 Md. 243, 248, 176 A.2d 355, 358 (1961).

89. See, e.g., the Colorado Solar Easement Act, ch. 326, § 2, 1975 Colo. Sess. Laws 1430: "The general assembly hereby finds . . . this act is necessary for the immediate preservation of the public peace, health and safety."

90. *Village of Euclid v. Ambler Realty Co.*, 272 U.S. 365, 394 (1926).

Courts sometimes acknowledge, however, that the true justification for regulating the height of buildings is economic:

[The proposed building] would obstruct the view substantially and depreciate the value of many properties in the area. Expensive homes directly across the street to the south will be depreciated in value approximately 20 per cent.<sup>91</sup>

Although the majority of zoning cases may involve economic considerations, courts rarely mention specifically the economic benefits inuring to some from excluding certain actions from the neighborhood. Rather, the government's police power to "promote the general welfare" provides the requisite constitutional foundation. Courts have upheld density controls, however, based not on the police power but on a separate statute designed to promote the general economy, welfare, and prosperity of the town through density controls.<sup>92</sup> This suggests a possible constitutional basis for protecting solar collectors simply as economic values. There would be no difficulty, however, in justifying the protection of solar collectors as devices to enhance health and welfare by reducing pollution and conserving resources, purposes well within the traditional justification for zoning regulation.<sup>93</sup>

#### IV. EXISTING LAWS TO PROTECT LIGHT ACCESS FOR HEAT AND POWER

Oregon and Colorado, in 1975, enacted statutes to protect access to sunlight for solar collectors.<sup>94</sup> They are the only states to have done so.<sup>95</sup>

##### A. *Oregon Statute*

In 1975 Oregon amended its land-use and zoning statutes to include several references to solar energy.<sup>96</sup> Oregon has a comprehensive land-use planning mechanism,<sup>97</sup> in which a state commission prepares

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91. *Anderson v. City of Seattle*, 64 Wash. 2d 198, 201, 390 P.2d 994, 996 (1964).

92. *See Village of Euclid v. Ambler Realty Co.*, 272 U.S. 365, 395 (1926).

93. *Id.* at 394-95.

94. *See* notes 96-114 *infra* and accompanying text.

95. Other statutes related to solar energy are beyond the scope of this paper.

96. 1975 Or. Laws ch. 153, §§ 1-3 (amending OR. REV. STAT. §§ 215.055, 215.110, 227.090, & 227.230 (1971)).

97. *See* OR. REV. STAT. §§ 197, 215, & 227 (1975) (statewide planning commission, empowered to enforce recommendations on cities and counties).

statewide planning goals and guidelines<sup>98</sup> "designed to promote the public health, safety and general welfare . . . ." <sup>99</sup> All land-use plans and zoning ordinances must comply with the goals and guidelines established by the commission.<sup>100</sup> The commission also prepares a statewide land-use plan; may recommend ordinances to county governments to implement the plan;<sup>101</sup> and may recommend to city councils and require the adoption of methods to implement the state plan.<sup>102</sup> City councils have the usual power to issue zoning regulations.<sup>103</sup>

The 1975 amendments generally require state and local government to consider solar energy as one of the relevant factors in the land-use planning process. The state planning commission must include "incident solar energy and utilization" among the "considerations" on which the state planning goals and guidelines are based,<sup>104</sup> which in turn will determine the state's and counties' planning and zoning regulations. The state commission has corresponding authority to recommend county zoning regulations "protecting and assuring access to incident solar energy"<sup>105</sup> and building code provisions "including height and setback."<sup>106</sup> City planning commissions may recommend city zoning ordinances "limiting the use, height, area, bulk and other characteristics of buildings and structures . . . ." <sup>107</sup> Among its recommendations to city councils concerning the regulation of future growth and development, the city planning commission may include "appropriate public incentives for overall energy conservation . . . ." <sup>108</sup>

### B. *Colorado Statute*

The Colorado statute<sup>109</sup> simply establishes terms that must be included in any "easement obtained for the purpose of exposure of a so-

98. OR. REV. STAT. § 197.240 (1975).

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

100. OR. REV. STAT. § 197.175 (1975) (city governments); *id.* § 215.055 (city governments).

101. OR. REV. STAT. § 215.110(1)-(2) (1975).

102. OR. REV. STAT. § 197.310(3), (6) (1975).

103. OR. REV. STAT. § 227.215(2) (1975).

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

105. OR. REV. STAT. § 215.110(2) (1975).

106. *Id.*

107. OR. REV. STAT. § 227.090(1) (1975).

108. OR. REV. STAT. § 227.090(2) (1975).

109. COLO. REV. STAT. §§ 38-32.5-101 to -102 (Supp. 1975).

lar energy device."<sup>110</sup> The full text of the amendment is given in the margin.<sup>111</sup> The statute does not purport to authorize such easements; if otherwise good as conveyances, they would presumably be valid without the statute's enactment. The terms that the statute requires seem reasonable and practicable. The statute raises some question about a conveyance or contract made after its effective date, yet not including the required terms: Would such an instrument be enforceable between the parties to it? The language of the statute limits its effect to "easements," and there is no indication whether the legislature meant to include contracts. Presumably, an agreement between two parties, binding so long as they own certain property, would be enforceable as a contract if it failed to include the terms of the statute and merely said something like, "A shall not make or permit any structure to cast a shadow over B's solar collector as presently located." The statute apparently limits only those agreements which would run with the land; the reason for such a limitation is unclear.

As noted earlier,<sup>112</sup> the Colorado statute purports to determine that it is necessary for the "immediate preservation of the public peace, health and safety."<sup>113</sup> While supportable,<sup>114</sup> this broad justification is

110. COLO. REV. STAT. § 38-32.5-101 (Supp. 1975).

111. Section 1. Title 38, Colorado Revised Statutes 1973, as amended, is amended BY THE ADDITION OF A NEW ARTICLE to read:

ARTICLE 32.5  
Solar Easements

**38-32.5-101. Solar easements—creation.** Any easement obtained for the purpose of exposure of a solar energy device shall be created in writing and shall be subject to the same conveyancing and instrument recording requirements as other easements.

**38-32.5-102. Contents.** (1) Any instrument creating a solar easement shall include, but the contents shall not be limited to:

(a) The vertical and horizontal angles, expressed in degrees, at which the solar easement extends over the real property subject to the solar easement;

(b) Any terms or conditions or both under which the solar easement is granted or will be terminated;

(c) Any provisions for compensation of the owner of the property benefiting from the solar easement in the event of interference with the enjoyment of the solar easement or compensation of the owner of the property subject to the solar easement for maintaining the solar easement.

**Section 2. Safety clause.** The general assembly hereby finds, determines, and declares that this act is necessary for the immediate preservation of the public peace, health, and safety.

1975 Colo. Sess. Laws 1430.

112. See notes 89 & 111 *supra* and accompanying text.

113. Solar Easement Act, ch. 326, § 2, 1975 Colo. Sess. Law 1430, *quoted in notes 89 & 111 supra*.

114. See note 92 *supra* and accompanying text.

unnecessary in a statute that affects no existing rights and simply specifies terms to be included in future conveyances. Considering the uncertainty of the statute's effect, it would have been helpful had the legislature spelled out its purpose more narrowly and clearly. The economic value of solar access rights is sufficient to support the statute, and may very well have been the principal object of the regulation.

#### V. PROPOSED LEGISLATION: AMERICAN BAR FOUNDATION MODEL ACTS

The American Bar Foundation (ABF) is in the process of developing model statutes and ordinances relating to the use of solar energy, as part of a National Science Foundation project, "Legal Issues Related to the Utilization of Solar Energy."<sup>115</sup> The ABF has sponsored at least two conferences on the subject and is circulating preliminary drafts of model statutes.<sup>116</sup> The proposed model statutes deal with a wide range of issues,<sup>117</sup> most of them outside the scope of this Article. It is unfortunate that the proposals have not been disseminated for public comment. There is no obvious reason for confidentiality at any stage of such a project, and circulating draft statutes poses a danger of enactment before exposure to general public scrutiny.

Three of the proposals being considered by the ABF are pertinent to the present discussion. The first is a solar zoning ordinance,<sup>118</sup> to be enacted by municipal governments. It would create three types of districts: "mandatory solar use districts," "affirmative solar use districts," and "other solar use districts." These would supplement tra-

115. See AMERICAN BAR FOUNDATION, PROCEEDINGS OF THE WORKSHOP ON SOLAR ENERGY AND THE LAW, FEBRUARY 10, 1975, at iii (1975). The ABF project is supported by a grant from the National Science Foundation's program, Research Applicable to National Needs (RANN).

116. See Reitze & Reitze, *Protecting a Place In the Sun* (pt. 2), 18 ENVIRONMENT July/Aug. 1976, at 4, 5.

117. In addition to the proposals mentioned in the text, see notes 118-25 *infra* and accompanying text, the proposals involve such matters as "improving the public economics of solar energy systems" (subsidies suggested); "improving the operation and design of systems through cooperation with public utilities"; "removing potential construction and maintenance problems"; "improving the financing arrangements for solar energy systems"; and "increasing the number of available solar energy systems." See note 115 *supra*. The model acts and accompanying justifications comprise hundreds of pages of elaborate detail.

118. *Municipal Solar Zoning Ordinance*, ABF Model Acts 219 (May 1976) (type-written, available from American Bar Foundation, Chicago).

ditional zoning and building code provisions. In the first type of district, solar use would be mandatory in all new construction or substantial alterations that require new energy systems, with a possible waiver on sufficient showing. In the second kind of district, building code restrictions on placement of structures and height limitations, etc., would be entirely waived for solar collectors. In the third type of district, the municipality would merely be free to encourage solar use by granting exceptions from various building code and setback restrictions for solar collectors.

This appears to be the simplest of the major ABF approaches to the problem of protecting solar radiation access, and does not seem to suffer from any serious problems.

A second proposed statute<sup>119</sup> would authorize municipalities to purchase or condemn airspace in furtherance of a comprehensive plan for the use of solar energy. The proposal is prompted by a concern that the police power of the state will not support zoning for solar access that disturbs rights in existing structures,<sup>120</sup> or that municipalities will hesitate to exercise this power, preferring to purchase property or provide compensation for loss in value.<sup>121</sup> The concern about the limits of zoning power is probably unjustified;<sup>122</sup> the exercise of eminent domain in such cases would raise at least as serious constitutional problems as the exercise of the police power.<sup>123</sup> It is by no means clear that condemning one structure owned by a private person to protect a solar collector planned by another private person would be a legitimate public purpose.<sup>124</sup> Furthermore, there are real questions

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119. *Required Municipal Use of Eminent Domain to Protect Solar Skyspace*, ABF Model Acts 133 (May 1976) (typewritten, available from American Bar Foundation, Chicago). A related ordinance, *id.* at 239, would empower the municipality to utilize transferable development rights to promote protection of solar skyspace, and refers the reader to Costonis, *The Chicago Plan: Incentive Zoning and the Preservation of Urban Landmarks*, 85 HARV. L. REV. 574 (1972), which discusses such a system.

120. *Required Municipal Use of Eminent Domain to Protect Solar Skyspace*, *supra* note 119, at 136.

121. *Id.* at 137.

122. See notes 84-85 *supra* and accompanying text.

123. The police power and the right of eminent domain are both implicated in many environmental and land-use planning programs, see generally Sax, *Takings & The Police Power*, 74 YALE L.J. 36 (1964), and create similar questions. The "public purpose" required for the exercise of eminent domain may justify a taking beyond the police power of the state, see 1 P. NICHOLS, *EMINENT DOMAIN* § 1.42(7) (rev. 3d ed. 1976), but solar zoning is well within the police power. See notes 84-85 *supra* and accompanying text.

124. There is substantial doubt whether the shift of property from one private person

whether it is advisable to create such extensive powers to disturb existing property rights to protect other private interests. The proposal to authorize purchase is reasonable, if in fact a municipality lacks such authority under a comprehensive land-use plan.

Finally, the ABF is considering a proposal for a statute creating solar easements through prescription,<sup>125</sup> which would permit such easements after the filing of notice of an intent to use a solar collector, the passage of seven years, and the actual use of a collector during part of that time. The effect of such a statute would be to permit private parties, after seven years notice, to compel the removal of adjoining structures. Even if there were independent justification for such a statute, the zoning and eminent domain statutes also under consideration would render the easement proposal superfluous.

The proposals discussed here, like others being considered by the ABF, show the results of a great deal of capable effort, but attempt more than is required. A more profitable line of approach would begin with consideration of the least possible legislation needed to assure access to sunlight for solar collectors.

## VI. SUMMARY AND RECOMMENDATIONS

### A. *A Minimal Approach*

Perhaps the first question that should be asked is: What will happen if we make no changes in the law? There is, of course, no certain prediction, but reasonable speculation can be useful. The American legal system might be sufficiently flexible to overcome the access problem even without legislation. Let us see how this might work.

A reasonable person planning a solar system will consider the exposure available. If present exposure is insufficient, his planning is likely to halt at that point and it seems unreasonable to call on new laws to permit him to demolish surrounding structures to make a solar collector feasible.<sup>126</sup> If sunlight is already available, the reasonable person will

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to another, even in pursuit of a government plan, may be a "public purpose." See 2A P. NICHOLS, *supra* note 123, § 7.2(1) n.5 (collecting authorities that condemned property must be available for use and enjoyment by the public).

125. *Creation, Allocation and Destruction of Solar Skyspace Rights*, ABF Model Acts 168 (May 1976) (available from American Bar Foundation, Chicago).

126. In built-up areas like downtown business districts it may be very difficult for the owner of a single building to acquire enough access to sunlight on his own property to

consider present and proposed zoning and building code regulations, setback requirements, etc., and place the collector where interference is unlikely for many years. In short, he will rely on present zoning-building code provisions to protect solar access. If the zoning or building codes do protect a planned solar collector the owner is free to purchase negative easements from his neighbors, or to enter into personal contracts assuring solar access. Anyone planning a solar collector must consider the cost of assuring access to sunlight through such voluntary agreements or conveyances, but as the neighbors will give up something of value—a portion of the rights to airspace over their land—it is reasonable that the party who expects to benefit from receiving these rights should offer compensation.

The only threat to access assured by zoning and private agreements is the very real possibility of change in zoning regulations or, more frequently, the granting of variances. Some modest new legislation would be justified to assure compensation to the owners of solar collectors affected by such changes in zoning. A zoning board might be required to include in any variance or alteration of general zoning regulations a proviso that reasonable compensation be offered to owners of any adversely affected solar collectors.

At least as regards access to sunlight, present law amply protects such rights as are justified by the economic value of solar collectors, and a modest change in statutes governing zoning would complete the mantle of protection. It may be, however, that the present legal system gives insufficient inducement to property owners to construct solar collectors. The present system requires a property owner to secure negative easements from what may be a large number of adjoining property owners in a built-up area; the cost of securing easements or preparing private agreements may be considerable compared with the cost of a single home's solar collector. Substantial new legislation, if any, should create a mechanism through which a property owner can secure the protection provided under present zoning and property law at much reduced expense.

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make solar heating, cooling or electric power feasible. When this is so, it may be more reasonable to provide solar power from a central utility than to try to balance competing demands for inadequate sunlight. A central solar utility presumably would have the powers of eminent domain ordinarily delegated to public utilities. The legal questions raised by the creation of solar central station heating or power plants are well beyond the scope of this Article, and have not been seriously considered elsewhere.

### B. *A Solar Rights Zoning Guarantee Statute*

The following is an outline of a proposed statute for a state-wide program to provide a solar zoning-building code access guarantee. The basic concept is that on private request, current and foreseeable zoning and planning conditions are guaranteed so that the solar collector's owner will suffer no financial loss because of new construction in the neighborhood during the life of the certification. The proposed system is a hybrid of zoning regulations and easements, founded on the police power to promote the general welfare, as well as the state's traditional powers to define and prohibit acts of trespass and public and private nuisances. It will protect rights of the collector's owner to the extent he could obtain protection, with more difficulty, through existing law. To this extent it will promote solar power use and allow changes in land-use patterns in accordance with other general plans in regard to zoning and building. It does not create new rights or absolute legal protection from shadows infringing on a solar collector. It therefore does a minimum of injury to existing or competing rights. No attempt has been made to use the elaborate technical language found in some proposals in this field; ordinary language is sufficient. Although the proposal is for state legislation, the concept may as easily be used directly in a municipal ordinance.

## VII. PROPOSAL FOR PROTECTING LIGHT ACCESS FOR SOLAR ENERGY SYSTEMS

1) A state agency would be established or designated to delegate the issuance, in conformity to state standards, of Solar Collection System Protection Certificates. In the absence of a municipally operated certification system conforming to these standards, the state agency could assume the function directly, charging the local government a sufficient fee to cover the costs involved.

2) A property owner desiring certification for either a proposed or existing solar energy collector would pay a fee, set by the local implementation authority, approved as reasonable under local conditions by the state agency.

3) The local implementation authority would provide notice of the application to all owners of record of real property within a 150-foot radius of the solar collector location, as well as to owners of any other nearby property which the applicant specifically designates. Notice would include adequate provision for obtaining detailed information on

the proposed certification, as well as provision for offering comments and/or official intervention if desired. The implementing authority could schedule and hold a public hearing at its discretion.

4) The implementing authority would be required to consider all known planning for the area, as well as the zoning, building code, and setback provisions and easements currently in effect. No reasonably foreseeable use of the affected property would be subject to the limitations set by the certificate. The implementing authority could specifically authorize certain uses of the affected property, or could issue certificates against specific types of intrusions on solar access. Certificates would issue for a fixed period of time, and would limit the guarantee of solar access to three and one half hours before and after noon, standard time.

5) Certification, if issued, would be renewable under conditions and fees not exceeding those of currently available first-time certificates, but may be subject to greater limitations on time and scope of protection at the discretion of the implementing authority.

6) Certification could not be arbitrarily withheld.

7) Aggrieved parties could appeal the decisions of implementing authorities to the state agency, which, however, could not overrule the reasonable exercise of discretionary powers. Further appeal to the state's courts would depend on state law.

8) If granted, copies of the certification would be a) issued to the applicant property owners; b) placed on file with the implementing authority for its own use; c) filed with the state agency for statistical, informational, and records purposes; and d) recorded and filed with the Recorder of Deeds for the locality. Notice of the certification would also be filed with the records of each piece of property affected by the certification, in the same manner as are records of easements.

9) Certification would accompany the location, regardless of whether the specific solar collector has been replaced in whole or part, so long as the replacement makes no essential difference in a specific request to enforce the protection offered by certification. The effects of certification on the affected nearby properties would run with the land for the life of the certification, and changes of ownership would be immaterial.

10) The owner of the certificated property may notify both the implementing authority and the owner of any nearby property if such property undergoes changes, planned or otherwise, that significantly inter-

ferre with the operation of the certified solar collector. The owner of the property from which the shadow is cast must then use due diligence to eliminate the shadow insofar as it significantly interferes with the operation of the solar collector during the protected period of three and one half hours before and after noon, standard time. Alternatively, the owner of the property from which the shadow is cast may, at his option, pay reasonable compensation to the owner of the adversely affected collector.

11) Upon written petition of both parties, and payment of a reasonable fee, the implementing authority or the state agency may make a binding determination of what compensation, if any, is justifiable under the circumstances of an alleged shadow intrusion. The arbitrator so chosen shall also have the power to suggest but not require that the parties agree on a nonfinancial solution to the problem. The arbitrator must set a compensation figure to be paid in lieu of an agreement to end the problem otherwise, unless the arbitrator finds that the complainant has suffered no substantial adverse effect, in which case he is entitled to no payment.