# ARTICLE

# THE "CONSERVATION GAME": THE POSSIBILITY OF VOLUNTARY COOPERATION IN PRESERVING BUILDINGS OF CULTURAL IMPORTANCE

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## I. INTRODUCTION

All around the world, there is growing awareness of the importance of preserving buildings of historical, cultural, or aesthetic value.[1] The various benefits attributed to the physical, built environment include the cultivation of community solidarity and stability, the advancement of individuals' orientation and identity, and the encouragement of aesthetic excellence as well as its enjoyment.[2] Consequently, there is growing state intervention in the sphere of preservation, including public authorities' use of various coercive tools for the protection of cultural buildings. Such intervention may impose heavy burdens on landowners. For example, in addition to prohibiting owners from engaging in new construction or making substantial changes to existing buildings, the state may require owners to spend money on maintaining and repairing cultural buildings.

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1. For purposes of brevity, "cultural" will be used throughout as a generalization for historic, architectural, and aesthetic buildings, property, or importance.

2. *See* Carol M. Rose, *Preservation and Community: New Directions in the Law of Historic Preservation*, 33 STAN. L. REV. 473, 479-94 (1981) [hereinafter Rose, *Preservation and Community*]; JOHN J. COSTONIS, ICONS AND ALIENS: LAW, AESTHETICS AND ENVIRONMENTAL CHANGE (1989) [hereinafter COSTONIS, ICONS AND ALIENS]; BERNARD M. FEILDEN, CONSERVATION OF HISTORIC BUILDINGS 3, 6 (1994); JOHN H. HARVEY, CONSERVATION OF BUILDINGS 18-21 (1972); John J. Costonis, *Law and Aesthetics: A Critique and a Reformulation of the Dilemmas*, 80 MICH. L. REV. 355 (1982) [hereinafter Costonis, *Law and Aesthetics*]; John H. Merryman, *The Public Interest in Cultural Property*, 77 CALIF. L. REV. 339 (1989); Kathryn R. L. Rand, *Nothing Lasts Forever: Toward A Coherent Theory in American Preservation Law*, 27 U. MICH. J.L. REFORM 277, 278-94 (1993); Robert Stipe, *Why Preserve Historic Resources?*, *in* READINGS IN HISTORIC PRESERVATION—WHY? WHAT? HOW? 59-60 (Norman Williams, Jr. et al. eds., 1983) [hereinafter READINGS]. Communitarian or republican scholars also stress the importance of preservation as an instrument for inspiring civic pride, promoting the spirit of neighborliness, and developing the moral character of citizens. *See* ELIZABETH ANDERSON, VALUE IN ETHICS AND ECONOMICS 160-61 (1993); MICHAEL J. SANDEL, DEMOCRACY'S DISCONTENT: AMERICA IN SEARCH OF A PUBLIC PHILOSOPHY 209-11 (1996).

Scholarly writing on the preservation of cultural buildings implicitly and uniformly assumes that once the importance of cultural preservation is recognized, it immediately follows that governmental intervention is necessary. Consequently, the discussion focuses either on the legitimacy of preservation as a public goal or on the specific tools, rules, processes, and institutions needed to achieve this goal. The discussion of preservation's legitimacy addresses issues such as the regressive and elitist aspects of conservation and its exclusion of low-income and minority groups.[3] The debate regarding the appropriate form and content of intervention deals with matters such as whether owners should receive compensation (monetary or in-kind) for the burden of preservation and the adequacy of cost-benefit analysis in determining the scope of conservation.[4]

Nowhere, however, does the discussion of cultural preservation question the assumption of the need for government intervention. This Article addresses this omission. It employs game theory to analyze the possibility of voluntary self-preservation by owners of cultural buildings. It does not argue that state intervention is always unnecessary. Rather, it claims that careful consideration of the unique characteristics of building preservation in light of insights from game theory indicates that the prospects of successful cooperation can sometimes be high, making regulation unwarranted.

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3. *See, e.g.*, COSTONIS, ICONS AND ALIENS, *supra* note 2, at 30-33, 41-43, 92-100; Rose, *Preservation and Community*, *supra* note 2, at 478, 487, 513-14, 522-23; Beverly A. Rowlett, *Aesthetic Regulation Under the Police Power: The New General Welfare and the Presumption of Constitutionality*, 34 VAND. L. REV. 603 (1981); James C. Smith, *Law, Beauty and Human Stability: A Rose is a Rose is a Rose*, 78 CALIF. L. REV. 787, 800-07 (1990); Note, *Historic Districts: Preserving City Neighborhoods for the Privileged*, 60 N.Y.U. L. REV. 64 (1985); *see generally* Richard J. Lazarus, *Pursuing "Environmental Justice": The Distributional Effects of Environmental Protection*, 87 NW. U. L. REV. 787 (1993).

4. *See* ANDERSON, *supra* note 2, at 190-216; COSTONIS, ICONS AND ALIENS, *supra* note 2, at 75-76, 100-10; John A. Gose & Roberta R. Katz, *Historic Buildings—Law and Practice in the United States*, 19 REAL PROPERTY, PROB. & TRUST J. 577 (1984); Elizabeth C. Gutman, *Landmarks as Cultural Property: An Appreciation of New York City*, 44 RUTGERS L. REV. 427 (1992); Rand, *supra* note 2, at 295-311; Rose, *Preservation and Community*, *supra* note 2, at 491-524; Jerome G. Rose, *Historic Preservation Law: A New Hybrid Statute with New Legal Problems*, 15 REAL EST. L.J. 195 (1987); Scott H. Rothstein, *Takings Jurisprudence Comes in From the Cold: Preserving Interiors Through Landmark Designation*, 26 CONN. L. REV. 1105 (1994); Mark Sagoff, *Economic Theory and Environmental Law*, 79 MICH. L. REV. 1393 (1981); George J. Siedel III, *Landmarks Preservation After* Penn Central, 17 REAL PROPERTY, PROB. & TRUST J. 340 (1982); Smith, *supra* note 3, at 807-12; Robert Ward, *Heritage Conservation in British Columbia*, 22 U. BRIT. COLUM. L. REV. 61 (1988).

Game-theory analysis reveals important features of cultural preservation that distinguish it from other public goods. The "conservation game" is much more interesting and complex than meets the eye. It cannot be generalized or categorized as a simple, typical example of public-goods provision commonly analyzed by scholars within the framework of a Prisoner's Dilemma Game. The feasibility of voluntary self-preservation varies greatly with the circumstances. In certain circumstances, the prospects of voluntary cooperation are very high and better modeled by a cooperative Assurance Game. In others, they are extremely low and better captured by a much more competitive game than a Prisoner's Dilemma Game.

This claim has important normative implications for the preservation issue. First, where voluntary self-preservation is feasible, state coercion should be avoided. In such cases, self-preservation is preferable because it entails fewer restrictions on individual autonomy and avoids the shortcomings of regulation, such as excessive limitations on the socially optimal use of land and high administrative costs. Second, even where voluntary cooperation is likely to fail, understanding the reasons for such failure provides guidelines for the proper scope and content of government intervention. In particular, non-cooperative preservation scenarios are sometimes easily transformed into cooperative ones by providing landowners with appropriate incentives. Whenever such transformation is possible, it should be preferred over compulsory regulation for the reasons indicated. On the whole, therefore, the state should have a more limited role in cultural preservation.

The Article opens with an account of the economic effects of conservation on the value of cultural buildings. This preliminary discussion is necessary because the economic effect of preservation directly impacts the feasibility of voluntary cooperation in this sphere. Part II.A describes the role of preservation in the life cycle of buildings. Part II.B analyzes the circumstances in which preservation increases or decreases property values. The main part of the Article addresses the feasibility of private, voluntary self-preservation. Part III.A describes the pure public-good aspects of conservation. These aspects help explain the standard application of the Prisoner's Dilemma framework to the supply of public goods. Part III.B then analyzes the unique features of conservation that often

enhance the chances of successful voluntary supply of this public good. Part III.C discusses the "conservation game" through an exploration of various game scenarios that may apply to preservation, ranging from cases where cooperation is very likely to cases in which the prospect of cooperation is bleak. Finally, Part IV presents normative implications of the game-theory analysis.

## II. THE ECONOMIC EFFECT OF CONSERVATION

Buildings worthy of conservation have both a private and a public function. The private function consists of a building's use by its owner or occupier. Preserved buildings may be used for various private purposes—residential, commercial, or industrial. A building's public function arises from the special historical, architectural, or cultural significance that justifies its conservation. To understand the conservation process and assess the possibility of voluntary collective preservation, one first must analyze the interrelation between the private and public functions of cultural buildings.[5]

### A. *The Role of Conservation in the Life Cycles of Buildings*

Buildings are exhaustible and non-renewable.[6] They have a limited "life." This life may be lengthy, but its duration is finite. The land on which buildings stand is non-exhaustible, yet the uses to which it is put and the structures erected on it change over time. Natural,[7] physical, social, and economic forces determine the life of buildings. Buildings may become unsuited to their surroundings. Buildings may become non-functional

5. Sometimes, conservation is best achieved by eliminating the private function of the building, for example, by expropriation and conversion into a public museum. Because this Article discusses the prospects of voluntary self-conservation by private individuals and the justification for state intervention in this sphere, it is assumed that buildings have both private and public functions. In fact, most buildings that authorities decide to preserve remain in private ownership. This is because the goals of conservation usually can be attained by preserving the exterior of buildings for public observance, without the need to provide public access to their interior as well. In other words, conservation by creating a museum is the exception rather than the rule. See *infra*,text accompanying note 45.

6. This is in contrast to the natural environment, which in many cases is renewable to a great extent. For example, polluted air gradually can be cleaned, and animals and plants not driven to the point of extinction are capable of reproduction.

7. Natural forces include climatic effects such as temperature, moisture (rain, snow, ice, and groundwater), wind, and sunshine. More drastic natural forces are earthquakes, floods, and so on. *See* FEILDEN, *supra* note 2, at 2-3.

because of lack of modern facilities or the presence of air pollution and noise.[8] Buildings may become obsolete because of changes in the demand or supply of different land uses.[9]

Given the life cycle of buildings, landowners periodically must either adapt (repair, renovate, or change the use of existing buildings) or redevelop (replace existing buildings) their property. Of course, an important factor is the financial costs and benefits of each option.[10] In some cases, adaptation is more profitable.[11] Redevelopment, on the other hand, may be preferred not only when the costs of adaptation exceed the benefits, but also when the potential value of new development is so high that it exceeds the costs of demolishing the existing, viable structure and building a new structure.[12] When redevelopment is more profitable, landowners may allow buildings to deteriorate until the time is ripe for new construction and a new life cycle.[13]

Considerations of cultural significance may be relevant at various stages of the life cycle of a building. They become crucial, however, at a specific point—the point at which, absent these considerations, the building would have been substantially altered or destroyed.[14] This usually occurs when the costs to the

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8. A common example would be an old residential building in the commercial downtown of a city. *See* NATHANIEL LICHFIELD, ECONOMICS IN URBAN CONSERVATION 21-25 (1988); *see also* JOHN J. COSTONIS, SPACE ADRIFT: LANDMARK PRESERVATION AND THE MARKETPLACE 9-10 (1974) [hereinafter COSTONIS, SPACE ADRIFT].

9. For example, an increase in the population may raise the demand for residential units or public services. *See* PATRICK MCAUSLAN, LAND, LAW AND PLANNING §§ 23-27 (1975); *see also* Alan D. Freeman, *Give and Take: Distributing Local Environmental Control Through Land-Use Regulation*, 60 MINN. L. REV. 883, 965-66 (1976).

10. This, however, is not the only factor. As discussed below, social and altruistic considerations may play an important role in deciding whether to conserve an existing building. *See infra* Part III.C.2-3.

11. Moderate repairs and adaptation of old buildings may be preferred over redevelopment because the former offers advantages such as saving construction time and using existing materials and facilities. In addition, as a result of the different building standards used in the past, old buildings often enjoy the advantages of better insulation from weather, noise, or vibration, as well as more light and ventilation. *See* HARVEY, *supra* note 2, at 20; Thomas D. Bever, *Economic Benefits of Historic Preservation*, *in* READINGS, *supra* note 2, at 79-81; U.S. Advisory Council on Historic Preservation, *Adaptive Use: A Survey of Construction Costs*, *in* READINGS, *supra* note 2, at 244-55.

12. Of course, not every person prefers to realize the development possibilities and demolish a perfectly viable, though less profitable, structure. Some people may prefer living in low-rise, low-intensity housing rather than converting their site into a high-rise condominium or commercial building. Note, however, that in such circumstances there is an economic incentive to replace the original structure.

13. *See* LICHFIELD, *supra* note 8, at 131-34.

14. Another crucial point occurs when cultural considerations require more costly

landowner of retaining the building, or retaining it in its existing state, exceed the benefits to her.[15] Note, however, that the cultural significance of a building may itself change the owner's incentives. This is because the public worth of the building, coupled with the act of conservation, may increase the value of the property. Consequently, the category of economically unattractive structures, from the private perspective, is smaller for cultural buildings than for ordinary buildings.[16]

It is important to note that conservation merely prolongs a building's life.[17] Preservation activities retard the process of decay and deterioration, but they cannot eliminate it altogether. Cultural preservation does not ensure or imply everlasting existence for two interrelated reasons. First, the costs of maintaining, restoring, and repairing old buildings increase with time. What begins as a modest measure for the prevention of decay gradually advances to a very costly and burdensome restoration project and, eventually, to a need for complete reproduction of the original structure. Even if one considers the benefits to the community and subsequent generations from cultural preservation (benefits not wholly internalized by the private owner), there obviously is a point at which compliance with all past preservation decisions is unreasonable. Exceptions exist only for a small group of buildings with the highest cultural value.[18]

Second, there is gradual accumulation of cultural buildings as each generation contributes its own choices to the pool. Honoring all past conservation decisions would result in continuing increases in the number of cultural buildings at the

maintenance and repair than is necessary for an ordinary building. This difference may result from the need to preserve and restore the materials, techniques, and ornaments of the original building. *See* FEILDEN, *supra* note 2, at 6, 8-11.

15. Note that this refers only to the costs and benefits that accrue to the property owner. The benefits to the community and the next generations may exceed these private costs. *See infra* Part III.A-B.1.

16. *See infra* Part II.B.

17. *See* COSTONIS, SPACE ADRIFT, *supra* note 8, at 45, 48; FEILDEN, *supra* note 2, at 3; LICHFIELD, *supra* note 8, at 66-67; Osbert Lancaster, *What Should We Preserve, in* THE FUTURE OF THE PAST: ATTITUDES TO CONSERVATION, 1174-1974, 65, 69 (Jane Fawcett ed., 1976).

18. *See* HARVEY, *supra* note 2, at 35. Usually, such important buildings do not remain in private hands, but rather they are publicly owned and administered as national monuments, landmarks, or museums. Most cultural structures held in private ownership have a much shorter existence.

expense of the community's other needs. Because land suitable for development is limited, the cumulative growth of preserved buildings may restrict and even prevent additional or more intensive development of new housing, roads, schools, and so on. This congestion or accumulation problem is solved by diluting and filtering within the pool of cultural buildings.[19] The relative cultural value of a building depends, at least to some extent, on the available choices, which increase from one generation to another. Differences in aesthetic taste, development of new architectural styles, and the occurrence of "new" historical events also shift cultural values from buildings currently preserved to others.[20]

As most buildings of the distant past have not survived to the present, most buildings preserved today eventually will be demolished. As stated above, exceptions exist only for truly extraordinary and spectacular buildings of the utmost historical or aesthetic value, and even this category changes with each generation. Thus, current decisions to preserve certain buildings may be seen as prolonging their life to enable the next generation to decide whether to keep them.[21] What mechanism is most suited for this selection process? Does it require state coercion or can private decision-making by landowners suffice?

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19. In this respect, preservation of buildings differs from preservation of species, where there is no inherent need to choose from or dilute the conserved group. Theoretically, the next generation can decide that it is not interested in preserving certain species or that it prefers a lesser degree of clean air. Thus, decisions concerning species and nature preservation may be seen as "temporary" and "optional" as well. However, important differences remain between the two cases. Both the problem of over-accumulation and the problem of unavoidable physical deterioration do not exist in the sphere of species conservation. Future generations can observe and adopt former generations' preservation decisions, or even adopt more extreme measures, with no substantial increase in the above disadvantages. The course of evolution and ecology assures a proper balance between the different species. There is no fear of overcrowding of protected animals and plants, and there is no need to choose between ever-increasing kinds of species. In contrast, these are inherent and unavoidable problems with buildings.

20. To take an analogy from a different sphere, in Mozart's generation there were obviously other popular composers. Some undoubtedly remained popular with the next generation, but very few composers of that era have their music performed today. Increasing musical options, changes in taste, and scarcity of leisure time continuously redetermine the current pool of audio-culture.

21. The above discussion has normative implications for questions that exceed the scope of this Article. For example, how many buildings should be preserved? Does the temporary nature of our selection favor modesty or rather allow generosity? What types of buildings should be chosen—a wide and heterogeneous variety or a "select" group favored in the opinion of the persons making the choice?

To answer these questions, it is instructive to consider the possible benefits and costs to owners from conservation.

### B. *The Possible Beneficial Impact of Conservation on Property Values*

Conserving buildings of cultural importance can increase or decrease their value.[22] The following discussion focuses on how conservation effects only the *market value* of the cultural property. In evaluating the prospects of voluntary self-preservation, it is important to identify the circumstances in which the very act of conservation confers net financial benefits, or at least does not impose substantial costs.[23]

The very existence of architectural worth or historic importance may affect a building's market price. The building's aesthetic value, uniqueness, or architectural style may distinguish it from other buildings and enhance its value. To a certain extent, the beauty of a building, like the beauty of a work of art, is reflected in its market price.[24] The cultural importance of buildings may also create prestige value. Cultural structures reflect respectability, stability, and continuity in the community, and thus they may enhance the image of their owners. Some buyers are willing to pay a higher price for these characteristics.[25] Further, conservation can protect against detrimental changes in a building or its surroundings. Usually, property owners face the risk of unfavorable future changes in planning and zoning regulation. In contrast, a person living in a building of cultural importance has greater assurance that the desirable features of her area will be maintained. For example, new construction may

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22. This Part assumes that redevelopment is not the only economically viable option. *See supra* Part II.A. In discussing situations in which conservation reduces market value, it assumes that a decision to conserve is still economically viable, though less attractive than redevelopment. When a building reaches the state of economic obsolescence, it is doubtful whether the public goals of conservation can be realized at all. Although historic "ruins" may have great cultural value, at that stage the private function of the structure has long ceased to exist and preservation can be realized only through state expropriation or maintenance as a museum.

23. Therefore, any benefits or costs that may result from government intervention are ignored. For the same reason, positive and negative externalities are disregarded, inasmuch as they are not reflected in the market value of the property. Altruistic considerations of property owners regarding other people's appreciation and enjoyment of the cultural property are discussed later. *See infra* Parts III.A, III.C.2-3.

24. The full cultural value of these objects, however, is not reflected in the market price. *See infra* Part III.B.1.

25. *See* DAVID LISTOKIN, LANDMARKS PRESERVATION AND THE PROPERTY TAX: ASSESSING LANDMARK BUILDINGS FOR REAL TAXATION PURPOSES 33, 41 (1982); *see also* COSTONIS, SPACE ADRIFT, *supra* note 8, at 10.

have to conform with the characteristics of the area in style and scale.[26] Finally, conservation may bring about additional benefits, such as income from tourists, stimulated business activity, and neighborhood revitalization.[27]

Conservation, however, may also decrease the market value of cultural buildings. Preservation might require costly repairs to maintain original features, materials, and ornaments. Less expensive repairs or alterations appropriate for ordinary buildings may not suffice. More significantly, strict preservation of cultural buildings precludes their replacement with new and more profitable structures. The higher the unrealized market potential for more intensive uses, the greater the economic burden of conservation.[28]

In general, conservation is more likely to increase the market value of cultural buildings where an entire area or district—as opposed to an isolated building—is preserved.[29] This conclusion is obvious with respect to protection from adverse changes in the surroundings.[30] Isolated cultural buildings may be preserved without any restrictions on new development in the adjoining area. For instance, conservation of a lone historic structure in the center of a city ordinarily will not prevent the transformation of non-cultural buildings around it into high-rise, commercial buildings. Indeed, prohibiting such transformation may be deemed unreasonable if observance of a certain status quo in the area is not vital to the preservation of the cultural building itself.

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26. Indeed, the discussion assumes that cultural preservation is not coerced by the state. However, it is reasonable to presume that the state would wish to protect voluntary conservation by individuals, and therefore would not approve new zoning and planning regulations that would jeopardize these efforts. Consequently, people living in cultural buildings have better chances for continuous enjoyment of the attractive characteristics of the area.

27. *See* LISTOKIN, *supra* note 25, at 41; Bever, *supra* note 11, at 79-81; John S. Pyke, *Landmark Preservation, in* READINGS, *supra* note 2, at 82.

28. *See* LISTOKIN, *supra* note 25, at 37, 39, 43-45. As stressed in note 22, *supra*, this analysis assumes that even if detrimental factors exist, and even if retention of the cultural building is less profitable, the conservation option still is economically feasible. If this is not the case, there is no chance of realizing any of the benefits of conservation, and private conservation is impossible. In reality, many demolished cultural buildings were economically viable. They were torn down in order to realize the profits of more intensive development. *See* COSTONIS, SPACE ADRIFT, *supra* note 8, at 10.

29. *See* LISTOKIN, *supra* note 25, at 49.

30. *See* HARVEY, *supra* note 2, at 196-97; Rose, *Preservation and Community*, *supra* note 2, at 504.

Less obviously, the same conclusion often holds for prestige value. Feelings of pride, status, and significance may flourish to a higher extent in a relatively homogenous neighborhood of historical or aesthetic buildings.[31] Similarly, benefits such as enhanced tourist trade, business stimulation, and neighborhood revitalization tend to increase when more than just a few buildings in an area have cultural worth. It is not surprising that empirical studies of enhanced property values from conservation focus on districts or neighborhoods.[32]

This generalization, however, must be qualified somewhat. Some land uses, such as banks, insurance companies, law firms, and restaurants, may enjoy enhanced prestige value from the fact that no comparable structures house their neighbors or competitors. This value accrues mostly to commercial uses that are open to the public or that value "image building." Moreover, in comparison to residential uses, commercial uses are less sensitive to adverse changes in the surroundings, such as more noise and congestion. Therefore, the market value of commercial cultural buildings may not decrease because of lack of protection from changes in their surroundings. Some kinds of land uses, such as industry and certain commercial uses, are rather indifferent to considerations of prestige or protection of surroundings. Such buildings may not gain from their cultural importance whether or not they are part of a district of cultural buildings.

As explained above, the most significant negative impact of conservation on the market value of buildings results from restrictions on new and more intensive development.[33] However, if the current use of a building realizes its full development potential,[34] then prohibitions on new development will not necessarily decrease its value. In some cases, there is a

31. *See* COSTONIS, SPACE ADRIFT, *supra* note 8, at 18. There may be a correlation between the relative affluence of the neighborhood and the realization of such benefits. *See* LISTOKIN, *supra* note 25, at 51-52.

32. *See, e.g.*, LISTOKIN, *supra* note 25, at 29-36, 41, 45 (quoting studies regarding neighborhoods such as Alexandria, Virginia; Capitol Hill and Georgetown in Washington D.C.; and Brooklyn Heights, New York). In contrast, Listokin's discussion of cases in which landmark status decreased market value refers to single buildings in heterogeneous areas. *See id.* at 55-114.

33. *See id.* at 50-51.

34. That is to say, all development potential that is foreseeable in the near future. Obviously, this state of affairs may change due to population growth, changes in market demand for different land uses, and so on.

correlation between increases in value as a result of prestige or surroundings protection and the lack of unrealized development potential. Such a correlation is most likely to exist for predominantly residential districts located outside the center of town and not in proximity to commercial uses.[35] The development potential of such districts often is exhausted by current buildings, and prestige- and surroundings-protection values are expected to exist for a whole area of residential uses. Consequently, conservation is expected to increase land value, or at least not to decrease it.[36]

An opposite correlation may exist in other cases. An extreme example is the preservation of scattered residential buildings in a dominantly commercial area, close to the center of town. In this case, it is highly probable that relatively old cultural buildings have not fully realized the development potential of the site. Moreover, there is no guarantee that their surroundings will not change adversely. Finally, there is less of a chance to enjoy prestige value. Thus, one expects conservation to decrease the market value of the property.[37]

Apart from these two relatively clear cases, it is difficult to predict whether buildings enjoy net benefits or suffer net losses from conservation. For example, commercial buildings of cultural worth often enjoy prestige value and are somewhat indifferent to the absence of protection from changes in their surroundings. Yet the net outcome depends on the extent of unrealized development potential. In some cases, the benefits of conservation are insufficient to overcome the gap between current use and "full" use. In others, the gap is small or nonexistent and, therefore, net benefits from conservation are likely.[38]

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35. Proximity to the center of town is important because factors like agglomeration economies cause more intensive uses to be located in the center of town. *See* EDWIN S. MILLS & BRUCE W. HAMILTON, URBAN ECONOMICS chs. 1, 6 (3d ed. 1984); WILLIAM A. FISCHEL, THE ECONOMICS OF ZONING LAWS: A PROPERTY RIGHTS APPROACH TO AMERICAN LAND USE CONTROLS 252-59 (1985); W. LEAN & B. GOODALL, ASPECTS OF LAND ECONOMICS 114-31, 146-52 (1983).

36. *Cf.* COSTONIS, SPACE ADRIFT, *supra* note 8, at 18.

37. It is assumed for the moment that no changes, such as exchanging the residential use of the building with a commercial use, are made to alter this result. This relatively modest alteration is not always sufficient to offset the detrimental effect of conservation.

38. This is a realistic scenario. Commercial uses usually are more intensive than residential ones. Therefore, even a relatively old commercial structure is more likely to utilize most of its development potential.

In contrast, industrial structures usually are unresponsive to prestige or protection of surroundings values and, therefore, do not benefit from conservation. Nevertheless, conservation does not always reduce their market value. In comparison to commercial areas, the intensity of development of industrial areas increases less rapidly, and so unrealized development potential is less likely to exist. Consequently, conservation may have a relatively small negative effect on the market value or no effect at all.

Conservation of selected residential buildings in residential areas is another example of the unclear economic impact of conservation. Indeed, the benefits of both prestige and protection of surroundings may not exist or may exist only to a lesser extent. Nevertheless, if the expectancy for further neighborhood development is low, conservation might have a relatively small downward effect on the market value of the property.[39]

The above analysis demonstrates that preservation affects the market value of different cultural buildings in different ways, ranging from significant increases to substantial decreases. The next Part builds on this analysis to facilitate the examination of the feasibility of voluntary collective preservation.

## III. THE FEASIBILITY OF PRIVATE AND VOLUNTARY PRESERVATION

This Part addresses the need for government intervention in building conservation by examining the possibility of voluntary self-preservation by property owners. The examination utilizes various game theory models. As shown below, the various expected game scenarios are not adequately captured by a Prisoner's Dilemma Game (PDG). Rather, the prospects for successful cooperation are in some cases much higher than those predicted by a PDG—and thus better described by an Assurance Game or a Chicken Game model—and in other cases, much lower. The discussion is comprised of three sections. The first examines the public good aspects of conservation that

39. This effect is mainly due to the possibility of higher maintenance and repair costs for conserved buildings. *See supra* text accompanying note 28. A similar analysis may apply to conservation of a whole residential district, located relatively near to the center of town. Alongside the benefits from conservation, there may be a loss of development rights. The magnitude of this loss will determine the overall economic impact of conservation: beneficial, detrimental, or neutral.

explain the standard application of the PDG framework to the supply of such a good. The second explicates the unique characteristics of this public good that alter and complicate the preservation game. The third section analyzes the various alternative games that can be expected to take place when property owners decide whether to preserve.

### A. *The Public Good Aspects of Conservation*

A good has public aspects to the extent it embodies two characteristics: jointness of supply and nonexcludability. Jointness of supply concerns the cost function of the good and the degree to which its consumption is nonrivalrous. In the extreme case, the marginal production costs may be zero; adding more users,. therefore, would not detract from the benefits enjoyed by others. Nonexcludability exists when it is impossible or impractical to prevent certain people from using the good. These features make the supply of public goods through the market mechanism unfeasible or extremely suboptimal.[40] A good may lose one or both of its public properties as a result of certain, sometimes intentional, events. Congestion may make the use of a bridge rivalrous. A public park or a highway may become excludable by fencing, installing toll booths, and charging entrance fees.[41] Such actions turn public goods into private goods that can then be supplied by private entrepreneurs.[42]

In contrast to these last examples, the public good aspects of conservation often are unavoidable and extreme. In many cases, therefore, the benefits of cultural preservation are a *pure* public good. Take, for example, viewing the exterior of a cultural building. The visual enjoyment or feelings of inspiration, solidarity, and identity that one experiences when contemplating an aesthetic or historic building are nonrivalrous. The number of passersby viewing the structure ordinarily does not detract from any viewer's enjoyment, and so any quantity of

40. Classic examples of pure public goods are national defense and lighthouses. *See* ALLAN M. FELDMAN, WELFARE ECONOMICS AND SOCIAL CHOICE THEORY 106-07 (1980); DENNIS C. MUELLER, PUBLIC CHOICE II 10-11 (1989).

41. *See* RICHARD CORNES & TODD SANDLER, THE THEORY OF EXTERNALITIES, PUBLIC GOODS AND CLUB GOODS 159-60 (1986); MUELLER, *supra* note 40, at 11-12.

42. *See* FRED FOLDVARY, PUBLIC GOODS AND PRIVATE COMMUNITIES: THE MARKET PROVISION OF SOCIAL SERVICES 4-9, 13-15 (1994).

"users" may be accommodated with no additional cost. Furthermore, it is impractical to prevent people from observing the exteriors of cultural buildings.[43] Such obstruction, even if feasible, would undermine the very goals of preservation. Enhanced feelings of community and solidarity are dependent at least in part on open visual access to cultural buildings.[44]

The interior of cultural buildings may also be worthy of preservation. In such cases, public "use" of a building's interior is subject to congestion, and hence can be rivalrous, and, more importantly, is excludable. Still, conservation as a museum is the exception, not the rule. In most cases, the goals of preservation can be fully realized without altering the private function of the building or requiring public access to its interior.[45] Consequently, the exclusion of non-payers from the benefits of conservation and the supply of conservation by private entrepreneurs are most implausible.[46]

Note, however, that benefiting from "using" a cultural building by viewing its exterior or visiting its interior represents only one way in which preservation is valuable to people. The very existence of a cultural building may confer benefits on people who have not visited it and do not expect to do so in the future. Similarly, people who have obtained "use" benefits of cultural buildings may obtain additional benefits from conservation that are independent of their current and future use. Such benefits, captured by what economists call "existence value," represent value derived from the mere knowledge that certain structures of historical and aesthetic importance exist.[47]

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43. *See* FELDMAN, *supra* note 40, at 107; MUELLER, *supra* note 40, at 11.

44. The fact that the physical structure itself is a private good (both rivalrous and excludable) does not affect the pure public good aspect of the building's cultural worth.

45. *See* LICHFIELD, *supra* note 8, at 213. Preservation as a museum may be unsuitable for various reasons. First, the building's interior may not merit such treatment. Second, the costs, which will usually include full expropriation compensation for property owners, may be very high. *See* Ellen E. Katz, *Conserving the Nation's Heritage Using the Uniform Conservation Easement Act*, 43 WASH. & LEE L. REV. 369, 373 (1986). Third, such preservation "sucks the life" out of the building; it ceases to be an object of human vitality. *See* HARVEY, *supra* note 2, at 42-43; Pyke, *supra* note 27, at 53. A different question is whether charging a fee, even when possible, is desirable. So long as the marginal cost of additional users is zero or very low, excluding non-payers who would benefit from the building's interior violates the pareto efficiency principle. *See* MUELLER, *supra* note 40, at 12. It may be preferable that as many people as possible enjoy cultural benefits. *See* CORNES & SANDLER, *supra* note 41, at 191-92; LICHFIELD, *supra* note 8, at 213.

46. In addition, even if a fee is charged for viewing a building's interior, enjoyment of its exterior remains free, nonrivalrous, and nonexcludable.

47. There are other "non-use" values, that is, values that do not arise from the present

Existence value is a manifestation of altruistic sentiments. A person may be philanthropic, valuing cultural buildings because of the knowledge that others want to use and enjoy them. A person may also value the existence of cultural buildings because she wishes to provide future generations with an opportunity to enjoy them. This species of existence value is called "bequest value." Finally, a person may believe that buildings that are connected to important historical events, or are considered beautiful, have intrinsic worth and therefore deserve protection.[48]

Benefits derived from the existence value of cultural buildings are entirely nonrivalrous and nonexcludable. Moreover, existence value, by definition, is independent of whether a building's main cultural worth lies in its exterior or interior. To the extent existence value is significant, it expands the pure public good aspects of the conservation of buildings.[49]

To sum up, the benefits of conservation are often a pure public good that can be realized and enjoyed by numerous people. What are the implications of this conclusion for the possibility of private provision? The standard analysis of pure public good provision predicts that the prospects for successful cooperation are very low.

The impossibility of excluding non-contributors from the benefits of a public good and the inability of any one individual to provide the good independently create two interrelated

or planned use of a resource. One such value is "option value." This is the value of guaranteeing the possibility of using goods in the future in the face of risks such as changes in future tastes, knowledge, income, or supply. *See* ROBERT C. MITCHELL & RICHARD T. CARSON, USING SURVEYS TO VALUE PUBLIC GOODS: THE CONTINGENT VALUATION METHOD 70 (1989); THOMAS M. POWER, ENVIRONMENTAL PROTECTION AND ECONOMIC WELL-BEING: THE ECONOMIC PURSUIT OF QUALITY 82 (2d ed. 1996). For the purposes of building conservation, the concept of existence value is more important.

48. The concept of existence value was developed and is mainly discussed with relation to environmental protection and wildlife preservation. *See* KRISTIN M. JAKOBSSON & ANDREW K. DRAGUN, CONTINGENT VALUATION AND ENDANGERED SPECIES: METHODOLOGICAL ISSUES AND APPLICATIONS 52-54 (1996); John V. Krutilla, *Conservation Reconsidered*, 57 AM. ECON. REV. 777 (1967); Allan Randall, *Human Preferences, Economics and the Preservation of Species*, *in* THE PRESERVATION OF SPECIES 79, 84-85 (Bryan G. Norton ed., 1986). One may intuitively and reasonably assume, however, that such value exists with regard to buildings of cultural importance. *See* LICHFIELD, *supra* note 8, at 119-20; Krutilla, *supra*, at 781 n.10.

49. Research on environmental and wildlife protection purports to show that existence values comprise a large part of the total value of these goods to humans. *See* JAKOBSSON & DRAGUN, *supra* note 48, at 54; Thomas H. Stevens et al., *Measuring the Existence Value of Wildlife: What Do CVM Estimates Really Show?*, 67 LAND ECON. 390 (1991). To my knowledge, no similar study has ever been conducted regarding the conservation of buildings.

disincentives to collective cooperation and supply. First, people have the incentive to free-ride on the efforts of others, knowing that the absence of their small contributions will have no significant impact on the total quantity of the public good. Second, people fear being "suckers," that is, they fear that their own efforts, unaccompanied by similar contributions from enough others, will be insufficient to provide the good and hence will be wasted. Thus, non-cooperation is individually rational regardless of the action taken by others. Consequently, the public good is not provided, and everyone is worse off than they would have been if collective cooperation had succeeded.

This scenario is known as the n-person Prisoner's Dilemma.[50] Although repeated plays of a PDG may enhance the chances of cooperation, given the structure of preferences, there is no guarantee that the desired outcome will ensue. The parties might find themselves locked in the non-cooperative outcome.[51]

Another game, less frequently applied to public goods provision, is the Chicken Game (CG). The CG model usually is employed in circumstances in which an individual's contribution may prove crucial to the supply of the public good.[52] For example, if whales are approaching the point of extinction, each whaler's restraint may significantly help to avoid the catastrophic result.[53] In this game, the first and second preferences are

50. The provision of public goods has the structure of a PDG if it is reasonable to assume that the players' preferences, ranked from the most- to the least-preferred option, are as follows: (I) I do not contribute, but enough others do; (II) We all contribute; (III) No one contributes; (IV) I contribute, but not enough others do. Non-contribution is the dominant strategy, because it both insures against the worst result, (IV), and offers the possibility of realizing the most preferred result, (I). The universal non-cooperation outcome, (III), however, is worse than universal cooperation, (II). *See* ANDREW M. COLMAN, GAME THEORY AND ITS APPLICATIONS IN THE SOCIAL AND BIOLOGICAL SCIENCES 115-18, 201-09 (2d ed. 1995); RUSSELL HARDIN, COLLECTIVE ACTION 16-28 (1982); MICHAEL TAYLOR, THE POSSIBILITY OF COOPERATION, 13-18 (1987). When this preference ranking does not exist or does not apply to a significant number of players, different games are played, possibly with different outcomes. Indeed, the conservation game usually is not a PDG. *See infra* Part III.C.

51. For discussions of the possibility of cooperation in repetitive plays of a PDG, see COLMAN, *supra* note 50, at 135-60, 212-25; IAIN MCLEAN, PUBLIC CHOICE: AN INTRODUCTION 134-39 (1987); ROBERT SUGDEN, THE ECONOMICS OF RIGHTS, CO-OPERATION AND WELFARE 105-11, 138-40, 152-53, 161 (1986) [hereinafter SUGDEN, ECONOMICS OF RIGHTS]; TAYLOR, *supra* note 50, at 65-70, 104-08; John C. Harsanyi, *Advances in Understanding Rational Behavior, in* RATIONAL CHOICE 82, 94-96 (Jon Elster ed., 1986); Anatol Rapoport, *Prisoner's Dilemma—Recollections and Observations, in* RATIONAL MAN AND IRRATIONAL SOCIETY?—AN INTRODUCTION AND SOURCEBOOK 72, 78-79 (Brian Barry & Russell Hardin eds., 1982).

52. *See* TAYLOR, *supra* note 50, at 34-59.

53. *See* Michael Taylor & Hugh Ward, *Chickens, Whales and Lumpy Goods: Alternative*

identical to those in a PDG.[54] The best scenario is that I do not contribute, while enough others do. The second-best alternative is that everyone contributes. The difference between the two games lies in the reversal of the third and fourth priorities. In the PDG, individuals prefer universal non-cooperation to the "sucker's" lone contribution, whereas in the CG, non-reciprocated contribution is preferred over non-provision of the collective good. The most familiar example of a CG is two drivers speeding towards each other on a narrow road. The best option for each driver is that the other be "chicken" and swerve in order to avoid collision. Mutual swerving is less courageous than holding out, but preferred by both to swerving alone. The worst option, of course, is that neither swerves and a collision ensues.[55]

Theoretically, the reversal of the third and fourth priorities in the CG improves the chances of mutual cooperation in comparison with a PDG. The "minimax," or safe, strategy is the cooperative behavior. Cooperation, however, is not the dominant choice, because each player can benefit by deviating from it while others stick to the minimax strategy. Thus, each player has an incentive to precommit herself to the non-cooperative option, in order to force others into cooperation to avoid the worst outcome. This feature of the CG makes it a dangerous game; mistakes regarding the probable choices of other parties or mutual maintenance of previous non-cooperative commitments may bring about the disastrous, least-preferred option.[56]

Despite the intuitive appeal of using the PDG in analyzing the possibility of voluntary cultural conservation, the provision of this type of public good often is not a PDG. In particular, the conservation game in many cases is either much more cooperative or much more competitive than a PDG or CG. In other words, the prospects for successful private conservation

*Models of Public-Goods Provision*, 30 POL. STUD. 350, 352-54 (1982).

54. *See supra*, text accompanying note 50.

55. *See* DOUGLAS G. BAIRD ET AL., GAME THEORY AND THE LAW 44 (1994); COLMAN, *supra* note 50, at 111-12.

56. *See* COLMAN, *supra* note 50, at 112-15; TAYLOR, *supra* note 50, at 39; Anatol Rapoport & Albert M. Chammah, *The Game of Chicken*, *in* GAME THEORY IN THE BEHAVIORAL SCIENCES 151 (Ira R. Buchler & Hugo G. Nutini eds., 1969). For a discussion of the possibilities of long-term cooperation in a CG, see *infra* text accompanying notes 117-124.

often are much better or much worse than those predicted by typical PDG- or CG-based analysis. Special characteristics of conservation as a public good lead to this result.

### B. *The Unique Characteristics of Conservation as a Public Good*

Although the preservation of cultural buildings is to a large extent a pure public good, it has unique characteristics that make the "conservation game" different from the game that is usually used to explain the non-provision of pure public goods. Some of these characteristics increase the chances of voluntary provision. Others decrease it. This section describes the special features of building conservation and their possible effect on people's behavior. The next section analyzes the expected outcome of various conservation game scenarios.

#### 1. *Existing Public Goods*

Public goods such as roads, parks, and national defense need to be "produced." Costly efforts must be made to bring them into existence. The starting point is zero quantity, and production proceeds until the optimal level is attained. In contrast, buildings worthy of preservation already exist. There is no need to "produce" or construct them,[57] but only to guard against their demolition or substantial alteration. It is not desirable or feasible, however, to conserve all buildings of a certain period or architectural style. Therefore, the starting point is a certain quantity of cultural buildings, and a process of selection takes place leading to the preservation of a smaller group.[58]

The term "conservation" usually refers to a certain appropriate quantity of buildings of various types. One cannot point to a fixed or defined number in advance. Below a certain level, and above another, the term "conservation" ceases to apply. For example, if only very few Bauhaus buildings remain, one cannot speak of "preserving" this architectural style. There must be a significant number of such structures to achieve the

57. Indeed, there is no possibility of providing or constructing them. *See infra* Part III.B.4.

58. *See* HARVEY, *supra* note 2, at 35-37; LICHFIELD, *supra* note 8, at 77. A certain exception to this selection process is buildings that are "one of a kind," such as a building in which an important historical event took place or a building with exceptional aesthetic and cultural merit. Most preservation buildings do not belong to these categories.

goals of conservation. At the other extreme, if too many buildings of a certain type continue to exist, there is a "freezing" of the past at the expense of present and future needs.[59] In economic terms, this characteristic of preservation may be labeled a "partial step good in reverse."[60]

Along with their public function, most cultural buildings have a private function, whether residential, commercial, or industrial. As described above, property owners often have incentives to extend the life of their old buildings and not replace them.[61] In other words, notwithstanding the cultural worth of a building, it might be in the best interests of the private land owner to preserve the current structure. In this respect, building preservation differs from species preservation. Although species preservation is also an "existing" public good, there is no possibility that the private and public functions reinforce each other and point to preservation. With respect to species, public goals often are in conflict with private uses. People must choose between preserving a species unharmed and hunting animals, cutting down trees, or uprooting plants. Building preservation, however, is different because public goals often are in harmony with private uses. This unique characteristic of cultural building preservation substantially increases the chances of voluntary supply and overcomes some of the problems usually associated with public goods production.

Reconsider the examples of national defense, roads, and public parks, where positive efforts must be made to produce the public good. The key factor to private production is the possibility of internalizing the positive externalities of the good. In order to "capture" enough of the good's value, the producer must be able to monitor utilization, charge user fees, and exclude non-payers. The wider the gap between the public value

59. *See supra* text accompanying notes 18-20.

60. Jean Hampton, *Free-Rider Problems in the Production of Collective Goods*, 3 ECON. & PHIL. 245, 250 (1987). Hampton defines a "partial step good in reverse" as "a good which exists naturally at some level and which does not decrease with consumption until some critical consumption point is reached." *Id.* For the purposes of building conservation, "consumption" is replaced by "demolition." Cultural buildings exist and do not need to be produced. They continue to exist, and the goals of preservation are realized, despite the demolition of some, until a critical point is reached. Preservation is not a "pure step good in reverse" because its existence is a matter of degree. In contrast, a bridge and the election of a political candidate are "pure step goods" because they involve "one big production step and no more." *Id.* at 248-49.

61. *See supra* text accompanying notes 10-13.

of the good and the value internalized by the producer, the larger the non-conformity between the demand for the good and its supply by the market.[62]

In contrast to national defense, roads, and public parks, cultural buildings may be preserved despite the fact that most of their cultural value is *not* internalized by the owner. Because buildings exist and have a private function, it suffices that their owners do not have an incentive to redevelop. So long as an owner prefers her private use of the current structure over redevelopment or substantial alteration, it is irrelevant that she does not realize much of the cultural value of the building. Even if the value enjoyed by "free-riders" greatly surpasses the owner's private value, so long as the latter exceeds the value of the next-best private use, she voluntarily will preserve the original structure.[63] The preferability of retaining the current building may or may not be influenced by the building's cultural worth. Sometimes, the cultural importance or the benefits it yields, such as prestige or surroundings protection, will tilt the scales in favor of conservation. In other cases, owners' decisions to preserve may be based on narrow economic self-interest, uninfluenced by considerations of altruism or community. In the latter case, even people who are opposed or indifferent to conservation will choose voluntarily to preserve cultural buildings.[64]

Another significant difference is that the problem of land assembly in building preservation often is less severe than in other types of public goods provision. The supply of roads and public parks, for example, usually requires assembly of many different parcels of land. Once a project begins, any one individual can damage or even frustrate its success by refusing to

62. *See* FELDMAN, *supra* note 40, at 90-92, 106-34; RICHARD A. MUSGRAVE & PEGGY B. MUSGRAVE, PUBLIC FINANCE IN THEORY AND PRACTICE 42-48 (5th ed., 1989).

63. There are simpler, everyday examples of this phenomenon: a homeowner's cultivation of a beautiful flower garden despite others' free visual "use" of it; a bakery's continued bread production despite non-customers' free-ride on its enjoyable smells. *See* FELDMAN, *supra* note 40, at 91-92; MCLEAN, *supra* note 51, at 12. Note that the conclusion as to the plausibility of voluntary preservation holds even if conservation entails positive expenditures beyond merely refraining from redevelopment. Even with additional costs, there still may be private incentives to retain existing buildings if the private benefits outweigh the costs.

64. This is another example of the difference between building and species preservation. In the latter case, a person opposed or indifferent to the idea of preservation will have no similar self-interested incentive to support preservation measures.

sell her land. Consequently, a property owner might use her hold-out position to collect as much of the land's economic rent as possible. Such behavior increases the transaction costs of such projects, resulting in the suboptimal provision of certain public goods.[65] In contrast, the success of building preservation depends to a much lesser extent on assembly.[66] Despite the importance of assembly, every individual contribution has an independent and significant impact on the whole. This is particularly true for very unique buildings, where a preservation decision by the owner wholly achieves the goals of preservation. But even with less unique buildings, each owner's individual decision to preserve realizes an important part of the total goal.[67]

The assembly problem is more relevant for district preservation. It may be necessary to preserve most of the buildings in an area to realize the goals of preservation and to enjoy the benefits of prestige and surroundings protection. Still, even with district preservation, a few non-preservers usually do not ruin the project or nullify the efforts of others.[68] In addition, because conservation usually involves selection,[69] it is not regrettable that isolated attempts at preservation fail. It is sufficient that some succeed.

In summary, with respect to building conservation, independent actions of property owners can supply more of the public good than similar actions with respect to other kinds of public goods. The assumption that any individual contribution will have a negligible effect on the total quantity of the public

65. *See* ROBERT COOTER & THOMAS ULEN, LAW AND ECONOMICS 192-94 (1988); FISCHEL, *supra* note 35, at 188-89; RICHARD A. POSNER, ECONOMIC ANALYSIS OF LAW 56-57 (4th ed., 1992). The preservation of nature, scenic views, and endangered species often involves large areas of land, thus raising similar problems of assembly and free-riding. *See* Krutilla, *supra* note 48, at 781-82.

66. To be sure, conservation requires a certain quantity of buildings of various types. Retaining one or a few buildings of any kind will not suffice. Thus, one may also speak of a need to "assemble" a certain amount of structures.

67. Imagine a city in which Bauhaus-style houses are scattered in various locations. Although there is a need to preserve more than a few, no one particular house is crucial for the success of the enterprise in the way that every parcel in the route of a new road is crucial for its construction. Preservation decisions made by some owners will suffice.

68. Although district preservation poses the most severe assembly problem, it has other characteristics that enhance the chances of voluntary cooperation. Consequently, district preservation often has a greater chance of success. *See supra* text accompanying notes 29-32; *infra* Part III.C.2-3.

69. *See supra* text accompanying notes 58-60.

good, which is an important assumption of the PDG model,[70] is not necessarily true in building preservation.

### 2. *Retrievability of Individual Contribution*

An important motivation leading to a PDG is the fear of being a "sucker." Even people who are willing to contribute to a public goal might still fear that others will free-ride. As the famous "Tragedy of the Commons" demonstrates, a person may restrict her fishing or the number of cattle grazing in a meadow to protect the commons from overutilization only to discover later that others have not displayed a similar restraint. Consequently, the collective goal is not realized and that person's own efforts are wasted.[71] This result is the worst possible outcome in a PDG and is a major driving force in leading people to choose the non-cooperative option.

In the context of building preservation, the fear of being a "sucker" is almost nonexistent. An individual's contribution is to a large extent retrievable at any time. A private decision to preserve a current building may be reversed by demolition if its owner realizes that not enough other people preserve cultural buildings. In this context, then, individuals are not in danger of being stuck with their wasteful contributions.[72] To be sure, an owner's contribution is not entirely retrievable. Some costs, such as those incurred in repairing and maintaining cultural buildings, cannot be recovered.[73] Preservation, however, is primarily a decision "not to act," that is, not to demolish. The decision may be reversed with relative ease. In contrast, a person who restrained her whaling operations without succeeding in preventing whale extinction, contributed money to a collective fund that did not accumulate enough to achieve its goals, or voted for a candidate who was not elected, cannot take back her former contribution or the benefits that others enjoyed at her expense.

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70. *See supra* text accompanying notes 50-51.

71. *See* Scott H. Gordon, *The Economic Theory of a Common-Property Resource: The Fishery*, 62 J. POL. ECON. 124 (1954); Garrett Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243 (1968).

72. On the importance of retrievability of costs, see Hampton, *supra* note 60, at 259-64.

73. Additionally, in some cases, a person who is first to redevelop enjoys an economic advantage. In such cases, delaying demolition until the possibility of cooperation is tested may entail certain non-retrievable costs.

Retrievability is important for the CG player as well. In the CG, although lone contribution is preferred over universal non-cooperation that results in non-provision of the good, contribution will also depend on a player's estimate of the probability of independently providing the public good. In other words, a CG player is willing to contribute only if her individual efforts or the combined efforts of enough cooperative players will suffice to provide the good. If she estimates that no matter what she does, cooperative efforts will not reach this minimal level, then there is no point in wasting efforts on a hopeless project. Thus, a CG player may despair and decide not to contribute to the public good. With regard to building preservation, this CG problem does not exist. Because individual contribution is retrievable, the player can postpone non-cooperative behavior (demolition and redevelopment) until she knows whether enough others cooperate in supplying the good. There is no need to conduct complex estimates of the probability for cooperation and success.

Notwithstanding the above, in a certain respect preservation contributions are nonretrievable. Indeed, a building owner may decide to redevelop, thereby reversing her former decision to preserve. In the time that passes between these two decisions, however, free-riders enjoy irretrievable cultural benefits at her expense. Although such interim benefits are not retrievable, they are not necessarily large. The reason for this result is the visibility of contribution or non-contribution.

### 3. *Visibility of Contribution or Non-Contribution*

An individual contemplating whether to contribute to a collective goal must consider, among other things, the probability of others doing their share. If a person cannot observe others' behavior or at least estimate the probability of collective cooperation, she might decide not to take the risk that her efforts will not be reciprocated.[74] The harder it is to observe cooperation and detect defection, the smaller is the prospect of mutual contribution.[75]

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74. *See* JON ELSTER, ULYSSES AND THE SIRENS: STUDIES IN RATIONALITY AND IRRATIONALITY 20-21 (1979) [hereinafter ELSTER, ULYSSES]; Hampton, *supra* note 60, at 260-61.

75. *See* COLMAN, *supra* note 50, at 212-25; HARDIN, COLLECTIVE ACTION, *supra* note 50, at 153-54; SUGDEN, ECONOMICS OF RIGHTS, *supra* note 51, at 105-11; TAYLOR, *supra* note

In this regard, contributions to building preservation are highly visible and relatively easy to scrutinize. Defections such as the demolition of a cultural building cannot be hidden and in most cases are noticed immediately.[76] This visibility factor may enhance the chances for cooperation by providing assurance to persons interested in mutual cooperation and placing social pressure on potential defectors.[77]

Thus, the quick identification of non-contributors reinforces the retrievability characteristic of building conservation. It assures owners that long periods of time cannot elapse between the free-riding of other owners or the failure of preservation efforts because of excessive demolition of cultural buildings and the exercise of their option to withdraw their contributions.

### 4. *Irreversibility of Non-Contribution Decisions*

Cultural buildings are already in existence and need not be produced. As explained above,[78] this special feature of preservation helps overcome some of the problems associated with the supply of public goods. In another respect, however, this feature makes preservation more vulnerable. It is not just that cultural buildings need not be produced—they cannot be produced. The maximum supply of structures of any type is fixed. The quantity of existing historic buildings may be decreased, but not increased.[79] In contrast to roads or parks, for example, the supply of cultural buildings is much more inelastic.

Every demolition decision is irreversible and irreparable. With respect to the truly unique buildings, therefore, preservation is a "one-shot" game. With respect to less- exceptional structures, the game is in some sense repetitive, although any demolition irreversibly withdraws a particular building and thereby dilutes

50, at 104-08; Carlisle F. Runge, *Institutions and the Free Rider: The Assurance Problem in Collective Action*, 46 J. POL. 154, 164, 166-67, 169-70 (1984) [hereinafter Runge, *Institutions*]. An extreme case exists where cooperation or defection can be kept a secret, as in the case of breaching an international agreement to ban the production of certain weapons. *See* MCLEAN, *supra* note 51, at 131-32.

76. Detection is easiest in the case of district preservation. It is less so where cultural buildings are scattered throughout an area. Even in the latter case, however, demolition is very conspicuous and is noticed relatively quickly.

77. *See infra* Part III.C.2-3.

78. *See supra* Part III.B.1.

79. Artificial reproductions or duplications of old buildings do not have the same value as the originals. For a similar argument concerning nature preservation, see Krutilla, *supra* note 48, at 783.

the pool of structures eligible for conservation. Theoretically, a critical level might be reached beyond which not enough cultural buildings remain. This vulnerability of cultural buildings has the potential either to enhance cooperation by forcing individuals to be more cautious about a decision that they will not be able to reverse, or to decrease cooperation by inducing people to rush to redevelop before the critical level is reached.[80]

### 5. *Existence of Anti-Preservation Preferences*

Game-theory analysis often assumes that a given situation can be characterized as conforming to a single, specific game structure. Under this assumption, it is possible to predict people's rational behavior by using the insights of only a certain type of game. As explained above, the game most commonly applied to situations involving public goods is the PDG.[81] Another, less-utilized model is that of the CG.[82]

The assumption that a single type of game suffices to predict a situation is in many cases overly simplistic. In any given situation, different people may have preference rankings that deviate from those of any specific game structure.[83] In certain cases, however, at least some of the generalizations of the single game structure seem very tenable and can be predicted to have almost universal application. Recall the famous examples of the "Tragedy of the Commons." A clearly correct assumption of the PDG model is that all fishers, herders, and whalers prefer mutual cooperation over mutual defection. It is unreasonable to assume that any such person prefers the commons ruined to mutual restraint. Similarly, the CG model appropriately describes the example of

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80. For a greater elaboration of this argument, see *infra* text accompanying notes 104-105, 121-123, 141.

81. *See* HARDIN, COLLECTIVE ACTION, *supra* note 50; MUELLER, *supra* note 40, at 15; Robyn M. Dawes, *Social Dilemmas*, 31 ANN. REV. PSYCH. 169, 182 (1980); Runge, *Institutions*, *supra* note 75, at 154, 172; *supra* text accompanying notes 49-51.

82. *See* TAYLOR, *supra* note 50, at 34-59; Taylor & Ward, *supra* note 53, at 350, 352.

83. Some writers are highly aware of this and consequently assume various types of preference orderings when analyzing collective behavior. An excellent example is THOMAS C. SCHELLING, MICROMOTIVES AND MACROBEHAVIOR, 83-133, 213-43 (1978) [hereinafter SCHELLING, MICROMOTIVES]. For a general discussion of the importance of unpredictable preference orderings, both other-regarding and malicious, and for the understanding of reality and the emergence of a property regime, see Carol M. Rose, *Property as Storytelling: Perspectives from Game Theory, Narrative Theory, Feminist Theory*, 2 YALE J.L. & HUMAN. 37 (1990), *reprinted in* CAROL M. ROSE, PROPERTY AND PERSUASION: ESSAYS ON THE HISTORY, THEORY, AND RHETORIC OF OWNERSHIP 25, 30-39 (1994).

the two cars heading towards collision. It is natural to assume that everyone ranks collision as the worst possible option.[84]

In contrast to the preceding examples, cultural buildings preservation cannot be analyzed using one type of game. It is unreasonable to attribute identical and uniform preference rankings in this sphere. For example, alongside people who have PDG- or CG-type preferences, there may be others who attribute very little value to building preservation.[85] The latter might prefer that no one would contribute to preservation, rather than that everyone, including themselves, would. Such people have the following preference ordering: (I) I do not contribute, but enough others do; (II) Nobody contributes; (III) Everybody contributes; (IV) I contribute, but not enough others do. Unlike in both the PDG and CG, mutual cooperation is not the second-best option. Instead, the second-best option—mutual non-cooperation—is least preferred by a CG player, and ranked third by a PDG player.

Some people may hold even more extreme anti-preservation sentiments. They may believe that there are many worthier causes and so prefer that preservation activities, perhaps excluding only those pertaining to the few buildings of exceptional cultural importance, not be carried out at all, even if they are exempted from sharing in the costs. The preference ranking of these people is as follows: (I) Nobody contributes; (II) I do not contribute, but enough others do; (III) Everybody contributes; (IV) I contribute, but not enough others do. One may assume that the less-extreme anti-preservationists are more common. Thus, for the most part, people do not mind that others pursue building preservation, although they do not value preservation and, therefore, do not wish to contribute.

The existence of anti-preservation preferences is both understandable and legitimate. Many may view cultural buildings preservation as an important goal. But it surely is not

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84. The CG also seems very appropriate as a description of the Cuban missile crisis between Russia and the United States. *See* COLMAN, *supra* note 50, at 114; MCLEAN, *supra* note 51, at 131. It is difficult to think of a different preference ordering that can better illustrate this historic situation.

85. Similarly, there may be people who value building preservation more highly than those who have PDG- or CG-type preferences. Such people, for example, may not rank free-riding as the best alternative, but rather prefer mutual contribution or even lone contribution. For a discussion of the circumstances in which this scenario is plausible, see *infra* Part III.C.3.

one of the basic needs of modern urban life, such as roads, infrastructure, schools, or parks, that enjoy almost unanimous support. It is only natural, therefore, that the significance of preservation and its appropriate scope are debated and that the size of the opposition is non-negligible.[86] Furthermore, even people who generally favor building conservation might still oppose the preservation of specific structures for various reasons. They may believe that particular buildings do not merit preservation or that new buildings will serve more urgent needs of the community.

Note that people with anti-preservation preferences experience no dilemma in choosing their course of behavior.[87] Because they prefer universal non-contribution to universal contribution, they never have reason to regret their decision not to preserve—non-cooperation guarantees the highest minimum payoff (maximin)[88] and represents the only chance of realizing their most-preferred option.[89] The dilemma remains, however, for the probable majority—people who do not have anti-preservation preferences. Furthermore, the majority's behavior is influenced by the existence of the anti-preservation group. Pro-preservation individuals have to consider that some people do not fear the failure of preservation efforts and, therefore, will not cooperate under any circumstances. Pro-preservationists have to judge how this influences the prospect of successful cooperation by their group. The existence of an anti-preservation group may either reduce cooperation or enhance it. On the one hand, it may reduce cooperation because the existence of anti-preservationists reduces the chances that enough people will cooperate to supply the good. On the other hand, it may enhance cooperation if it motivates *other* people to

86. In contrast, one can assume that the group of car drivers who prefer collision and possible death to being "chicken" is indeed negligible.

87. *See* DONALD P. GREEN & IAN SHAPIRO, PATHOLOGIES OF RATIONAL CHOICE THEORY: A CRITIQUE OF APPLICATIONS IN POLITICAL SCIENCE 77 (1994); SUGDEN, ECONOMICS OF RIGHTS, *supra* note 51, at 138. In certain circumstances, however, individuals who do not value preservation themselves may be willing to support it knowing others do. *See infra* text accompanying notes 107-113 and 138-140.

88. The maximin is option II. *See supra* text following note 85.

89. The most preferred is option I. *See supra* text following note 85. In contrast, a PDG creates a true social dilemma. Although non-cooperation is the dominant individual choice, universal non-contribution results in an inferior outcome for everyone. *See supra* text accompanying notes 49-51.

contribute because they know that the public good otherwise will not be supplied.[90]

### 6. *Individually Negative Effects of Conservation*

As demonstrated above, conservation may increase or decrease the market value of cultural buildings. Prestige- and surroundings-protection values may raise prices, while maintenance costs and restrictions on new development may lower them. The scope of benefits, costs, or both may vary considerably from one case to another.[91]

Another unique feature of building conservation is the possibility for very diverse economic effects and, in particular, the possibility of some owners suffering substantial negative effects. An implicit assumption in discussions of voluntary supply of public goods is that once the good is provided, all contributors enjoy net benefits from its existence. Indeed, production may be costly, and more benefits may be enjoyed by free-riding. Yet universal cooperation and production of the good result in greater net benefits for everyone. This assumption may not always hold in building preservation. Although the act of preservation may confer net benefits on many people, it may inflict a heavy economic burden on the owner of the cultural building. If, for example, an owner has not yet realized much of the land's development potential and preservation prevents new construction, then the individual owner suffers net losses.

The economic impact of conservation on individual building owners, and specifically the magnitude of net benefits or costs incurred by them, plays a central role in the "conservation game." Part III.C, below, examines how this factor interacts with other features of building conservation and discusses a variety of plausible game scenarios that may be applicable to preservation.

### 7. *Lack of Information*

Preservation of cultural buildings may involve a peculiar information problem that does not affect other public goods. The very existence of the preservation good may be unknown to at least part of the population. Not everyone may recognize the

90. For a discussion of the impact of anti-preservation preferences on the conservation game, see *infra* Part III.C.3-4.

91. *See supra* Part II.B.

architectural or historic worth of any building, and there may be genuine disagreement as to the cultural value of buildings. In particular, even if a certain landowner is pro-preservation, she might not realize or believe that her own building merits conservation. As a result, she will not take this fact into account when contemplating whether to maintain the building. It is hard to estimate the importance or scope of this information or identification problem. It may be at least partially resolved, however, by education and spreading the relevant information. In other words, lack of such information is not in itself a cause for government intervention in building preservation. Other justifications must be found for state involvement that goes beyond the allocation of cultural information.

### C. *The Conservation Game*

#### 1. *Introduction*

This Part explores various scenarios that may be applicable to the preservation of cultural buildings. As explained in detail above, no single type of game suffices to capture the complexity of considerations or the diversity of characteristics germane to this issue. The interaction of numerous relevant factors gives rise to numerous possible scenarios, ranging from cases where cooperation is very likely to cases in which it is most unlikely. The differences between various situations are often a question of degree, rather than a clear-cut distinction. Obviously, it is impossible to articulate and analyze all these situations in detail. Therefore, this Part discusses some representative game scenarios that illustrate the typical cases where cooperation is likely to succeed or fail. It proves that often the conservation game is not a PDG, but either a more cooperative game or a more competitive one.

The following discussion assumes that the stage has been reached in which the cultural features of the building bear on the question of its continuing existence.[92] It focuses on situations

92. As shown above, even owners of "ordinary" buildings may have economic incentives to retain, maintain, and repair their original structures, rather than redevelop, and, as long as such "conservation" is preferable to redevelopment, owners have private incentives not to demolish such buildings regardless of their cultural value. *See supra* Part II.A. At this "early" stage (which includes most buildings), the non-cultural features of the building suffice to guarantee its continued existence, so that no analysis in terms of

in which the cultural worth of buildings can influence conservation decisions and in which successful preservation depends on the combined efforts of property owners. The various conservation scenarios are examined in light of two variables: conservation's effect on the property's value (decrease, increase, or no significant effect); and the scope of the required preservation (a whole district or individual buildings). An examination of the case of "one-of-a-kind" cultural buildings follows.

### 2. *Preservation Increasing Market Value*

The first case to be examined is that of district preservation, where successful voluntary cooperation is likely to enhance the market value of the buildings in the district.[93] Initially, it is assumed that the benefits of conservation can be realized only if a vast majority of the district's cultural buildings are preserved. The discussion then turns to the case where the benefits may be enjoyed even if fewer buildings in the district are conserved. Finally, the possibility of cooperation for the preservation of selected, individual buildings within an area will be examined. The claim is that the "conservation game" often played in these circumstances is an Assurance Game (AG). The AG is a much more cooperative game than a PDG, and the prospects of its success are especially high in the case of building preservation.

Where the realization of conservation's benefits requires the cooperative participation of a great majority of the district's property owners, each owner's decision whether to preserve her building depends on the behavior of the other owners. In such circumstances, people may prefer to preserve if others preserve as well, and not preserve if others do not. Because preservation will enhance market value, the district's property owners will all prefer universal cooperation (preservation) to universal non-cooperation (demolition). The game that results is an AG in which the probable ranking of preferences is as follows: (I) Everyone contributes; (II) No one contributes; (III) I do not contribute but others do; (IV) I contribute but others do not.[94]

game theory is required.

93. As explained above, prestige- and surroundings-protection values, as well as additional factors, may increase the value of preserved buildings. *See supra* Part II.B.

94. This preference ordering of an AG was offered by Professor Amartya K. Sen. *See* Amartya K. Sen, *Isolation, Assurance and the Social Rate of Discount*, 81 Q. J. ECON. 112, 114

In an AG, an individual's decision is conditioned on the decisions of others, and the interests of the parties at least partly coincide. In contrast to the PDG, there is no dominant strategy independent of what other players choose to do.[95] Alternatives (I) and (II) are both equilibrium points in that no player has an incentive to depart from them once the other players' choices are revealed, although non-cooperation, (II), is pareto inferior to cooperation, (I). The outcome of the game depends on what each person expects the others to do. The optimal outcome will be reached if everyone is assured that everyone else will also "do the right thing."[96]

What are the requirements for the existence of such assurance and, consequently, for successful cooperation? Many writers stress the need for information as to what action is likely to be taken by others or likely to be expected by everyone to be taken by others.[97] The more information the players possess, the greater the chance of universal cooperation.[98] Information may be collected through communication and coordination between individuals and may be easily supplied within a sufficiently small and stable community or between parties having a continuous relationship.[99] Other writers believe that the cooperative outcome can be reached even without specific information

(1967) [hereinafter Sen, *Isolation*]; *see also* TAYLOR, *supra* note 50, at 38; Runge, *Institutions*, *supra* note 75, at 160-61, 166; Taylor & Ward, *supra* note 53, at 353-54. The two non-coordinated alternatives (III and IV) are the least preferred because the benefits are not realized and the preservation efforts of some individuals are wasted. It is natural to assume that the worst outcome is that one's own efforts (rather than those of others) are wasted.

95. A PDG has a dominant strategy: non-cooperation. *See supra* text accompanying notes 49-50.

96. *See* THOMAS C. SCHELLING, THE STRATEGY OF CONFLICT 83-89 (1960) [hereinafter SCHELLING, STRATEGY]; Carlisle F. Runge, *Common Property Externalities: Isolation, Assurance, and Resource Depletion in a Traditional Grazing Context*, 63 AM. J. AGRIC. ECON. 595, 600-01, 602 (1981) [hereinafter Runge, *Externalities*]; Runge, *Institutions*, *supra* note 75, at 154-55, 161; Sen, *Isolation*, *supra* note 94, at 114, 122; Edna Ullman-Margalit, *Coordination Norms and Social Choice*, 11 ERKENNTNIS 143, 145-49 (1977) [hereinafter Ullman-Margalit, *Coordination Norms*].

97. *See* SCHELLING, STRATEGY, *supra* note 96, at 92-93, 96; Hampton, *supra* note 60, at 256, 260-61; Ullman-Margalit, *Coordination Norms*, *supra* note 96, at 149-50.

98. Lack of information may cause individuals to opt for the maximin choice, which is non-cooperation: a non-cooperative choice guarantees that the worst possible outcome will be (III). Cooperation creates the risk of ending with outcome (IV). *See* ELSTER, ULYSSES, *supra* note 74, at 21; Hampton, *supra* note 60, at 255.

99. *See* ELSTER, ULYSSES, *supra* note 74, at 20-22, 146; MCLEAN, *supra* note 51, at 127-29, 133, 147-48, 177; SCHELLING, MICROMOTIVES, *supra* note 83, at 232; SCHELLING, STRATEGY, *supra* note 96, at 134-35; Runge, *Institutions*, *supra* note 75, at 164, 166-67, 169-70.

regarding other people's intended actions. Because universal cooperation is everyone's best option, preferable to universal non-cooperation, no one will expect the latter to be the outcome, and everyone will choose to cooperate.[100] In any case, once the cooperative result is reached, it is self-enforcing. In contrast to a PDG, individuals have no unilateral incentive to depart from it.[101]

The special characteristics of building conservation make the AG the most appropriate model applicable to the case of district-preservation-enhancing market value. First, "cooperation" requires district property owners primarily to refrain from demolishing already-existing cultural buildings. Therefore, it is relatively easy to behave cooperatively.[102] Second, the debate regarding the extent of information required to assure cooperation in an AG has no bearing on the present issue. Even if one adopts the view that almost perfect information is required, such information exists in the case of building preservation. As explained above, contributions to building preservation are highly visible and easy to scrutinize. Non-cooperation by demolition is very conspicuous and will immediately be noticed. This is especially so in the case of district preservation or in a small and homogenous community.[103] Third, contributions to building preservation are retrievable to a large extent. A decision to preserve may be relatively easily reversed by an act of demolition. In refraining from demolition, there is no fear of being exploited by others or of significant wasteful contributions, so one cannot lose much from postponing demolition until cooperation is tested and assured.[104] This feature of building preservation also eliminates the information problem. One need not guess the intended actions of others, nor try to estimate the probability of cooperative behavior. One can just wait and see. Fourth, demolition decisions are irreversible. In the present circumstances, this fact is likely to enhance cooperation.

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100. *See* TAYLOR, *supra* note 50, at 19, 39; Taylor & Ward, *supra* note 53, at 354; COLMAN, *supra* note 50, at 37.

101. *See* SCHELLING, MICROMOTIVES, *supra* note 83, at 224-25; SCHELLING, STRATEGY, *supra* note 96, at 135; Runge, *Externalities*, *supra* note 96, at 601, 603; Sen, *Isolation*, *supra* note 94, at 114-15, 122.

102. *See supra* Part III.B.1.

103. *See supra* Part III.B.3.

104. *See supra* Part III.B.2.

Because preservation will increase market value, and because the attainment of this benefit is conditioned on almost universal cooperation, individuals will be more cautious in making an irreversible decision that would frustrate the desirable goal.[105] Finally, the existence of people having anti-preservation preferences will not make much difference in the current circumstances.[106] Presumably, even people who oppose the idea of building preservation will support measures that will enhance the value of their property.[107] These characteristics make the prospect of successful cooperation particularly bright.

An additional important factor is the influence of community life on individuals' preferences or choices. Interaction and interdependence between people may lead them to consider the preferences of others. As a consequence, some individuals may alter their own preferences, and others may change their behavior. In the first case, altruistic sentiments enter the actors' utility functions, thereby directly affecting their preference ordering. The cooperative option is ranked higher in the hierarchy than otherwise.[108] In the second case, the individuals may forgo their subjective preferences and choose to behave according to what most other people wish or to what is better for the community as a whole.[109] Professor Amartya Sen draws a distinction between these two cases, labeling the former "sympathy" and the latter "commitment."[110] It is not necessary to elaborate on the existence or scope of either phenomenon; suffice it to say that social norms, community pressure, moral persuasion and feelings of responsibility, accountability, and solidarity affect people's choices and behavior. Such influences are especially strong where communication and monitoring are

105. *See supra* Part III.B.4.

106. *See supra* Part III.B.5; *infra* Parts III.C.3, III.C.4.

107. A possible exception might be those individuals who hold strong ideological beliefs against building preservation and are thus willing to forgo the economic benefit to their property. Such people are probably quite rare.

108. *See* ELSTER, ULYSSES, *supra* note 74, at 146; TAYLOR, *supra* note 50, at 109-14; EDNA ULLMAN-MARGALIT, THE EMERGENCE OF NORMS 30-40 (1977) [hereinafter ULLMAN-MARGALIT, EMERGENCE]; Derek Parfit, *Prudence, Morality and the Prisoner's Dilemma, in* RATIONAL CHOICE, *supra* note 51, at 34, 37-38 (1986).

109. *See* ROBERT SUGDEN, THE POLITICAL ECONOMY OF PUBLIC CHOICE: AN INTRODUCTION TO WELFARE ECONOMICS 32 (1981); Parfit, *supra* note 108, at 38, 40-41; Amartya K. Sen, *Behavior and the Concept of Preference, in* RATIONAL CHOICE, *supra* note 51, at 60, 74-76.

110. Amartya K. Sen, *Rational Fools: A Critique of the Behavioral Foundations of Economic Theory, in* CHOICE, WELFARE AND MEASUREMENT ch. 4 (1982).

possible, relations and interaction are continuous, and reputation and trustworthiness are deemed important.[111] These factors will usually exist in district conservation, particularly in residential neighborhoods,[112] thus increasing the chance of cooperation and supporting the claim that the AG is the appropriate model applicable to this case.

The above factors, for example, may help induce people opposed or indifferent to cultural conservation to support the community's preservation efforts. Non-cooperators cannot remain anonymous, and they thus may prefer cooperation to public criticism.[113] In addition, these factors may not only lead people to consider the wishes of others, but also to educate and convince them as to the value of their own buildings. A community's conservation efforts can identify and reveal cultural merit to individuals who would not have recognized it otherwise, thereby increasing the chances of successful preservation.

Thus far, it has been assumed that district preservation will increase market value only if a vast majority of the buildings are conserved. Now relax this assumption and assume that these benefits may be realized, at least to a great extent, even with a lesser degree of preservation, and therefore that non-cooperation by a significant part of the community will not eliminate the benefits of preservation. Does this fact decrease the chances of cooperation? It seems that, even in this case, the likelihood of cooperation is high.

It is not obvious, given all the special aspects of building preservation discussed above, that individuals will significantly alter their preference rankings if they know that the benefits of preservation can be attained even without full cooperation. They may still prefer to preserve if and only if enough others do so. That is to say, individual cooperation may still be the most-preferred option.[114] But the second and third priorities might

111. *See* COLMAN, *supra* note 50, at 141-42, 215-21; ROBERT C. ELLICKSON, ORDER WITHOUT LAW: HOW NEIGHBORS SETTLE DISPUTES 167-83 (1991); ELSTER, ULYSSES, *supra* note 74, at 146; GREEN & SHAPIRO, *supra* note 87, at 90; SUGDEN, ECONOMICS OF RIGHTS, *supra* note 51, at 140, 152-53, 161; Dawes, *supra* note 81, at 176-78, 185-88, 190-91; Norman Frohlich et al., *Individual Contributions for Collective Goods*, 19 J. CONFLICT RESOL. 310 (1975); Parfit, *supra* note 108, at 39-40; Rapoport, *supra* note 51, at 78; Runge, *Externalities*, *supra* note 96, at 603.

112. *See* Rose, *Preservation and Community*, *supra* note 2, at 504.

113. *See* Dawes, *supra* note 81, at 185-86, 187.

114. It is reasonable to assume that increasing the quantity of preserved buildings in

change places, thereby creating a somewhat different version of an AG. People may prefer, as *second-best*, to belong to the group that benefits from the preservation efforts of others. Thus, the following preference ordering would be created: (I) I contribute if enough others do; (II) I do not contribute if enough others do; (III) Nobody contributes; (IV) I contribute but not enough others do.[115] Because mutual cooperation still ranks highest in this version of the AG, the above analysis is applicable to it as well. Hence, successful voluntary cooperation is most likely. This scenario is realistic, as the various impacts of community life described above reinforce this conclusion. Empirical research also sustains the claim that the existence of other contributors may increase a person's sense of obligation and willingness to contribute rather than encourage free-riding.[116]

One cannot, however, rule out the possibility that the opportunity to free-ride on the preservation efforts of others would have a more radical effect on the ranking of preferences. It may transform the AG into a CG. Accordingly, an individual's first preference would be to free-ride while enough others preserve. On the other hand, if there is a danger that preservation efforts will fail due to lack of sufficient contributors, the individual will instead join the cooperative group rather than forgo the benefits of conservation.[117]

Before exploring the prospects for cooperation in this game, it must be noted that even if preferences are similar to those in a CG, it does not immediately follow that a person will try to act as a free-rider. For example, if all the development potential of the land has been fully utilized, there may be no point in demolishing the existing structure.[118] Thus, a collective action problem will exist only if *some* of the property owners can stand to gain *both* from free-riding on the preservation efforts of others

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the district beyond the minimum necessary for realizing economic benefits will be at least as good as preserving that minimal quantity (if not even better).

115. *Cf.* ELSTER, ULYSSES, *supra* note 74, at 20. Compare with the former version of AG in the text accompanying note 94, *supra*.

116. *See* Donald P. Green et al., *How the Scope and Method of Public Funding Affect Willingness to Pay for Public Goods*, 58 PUB. OPINION Q. 49 (1994); *see also* COLMAN, *supra* note 50, at 217; Runge, *Institutions*, *supra* note 75, at 155, 157, 173-74.

117. Because non-provision of the good is the worst option, and individual efforts may be crucial to such supply, this is not a PDG. For an explanation of the preference ranking of a CG in comparison to a PDG, see supra text accompanying notes 52-56.

118. This is often the case in residential districts. *See supra* text accompanying notes 34-36.

*and* from realizing a superior use of their land. If all individuals "rush" to secure such extra gains for themselves, the result may very well be the worst one.[119]

The scholarly writing and experimentation on the subject of the CG is less copious than that on the subject of the PDG. Generally, scholars are more optimistic regarding the prospects for cooperation in the CG.[120] Note that within the framework of the CG, pre-commitment to non-cooperation is not troublesome in itself. As long as enough others contribute to the supply of the good, all is well—and theoretically, "enough others" should exist, because every CG player, by definition, prefers lone contribution to non-provision of the good, and universal contribution is unnecessary. The danger, therefore, lies in simultaneous pre-commitment or mistakes regarding other players' true intentions ("are they bluffing?") and regarding the smallest critical size of the cooperative group. This information problem may induce risk-averse players to exercise caution and forgo dangerous pre-commitment, although risk-taking individuals might still try to realize the optimal free-riding option.[121]

With respect to building preservation, a CG is a less-dangerous game. This is due to the minimization of the above-described information problem in the CG context. Cooperation (preservation) and non-cooperation (demolition) are highly visible, and choices cannot remain anonymous. In such a public, transparent game, pre-commitment is credible only if executed by carrying out the threat of destruction.[122] Refraining from demolition is, actually, a preserving behavior. Not only is bluffing impossible, but pre-commitment (destruction) is irreversible as well. Thus, the remaining players will be forced into cooperation and cannot hope that social pressure will convince defectors to alter their decisions and cooperate. Consequently, there is less danger of simultaneous pre-commitment and less potential for mistakes concerning other

119. *See supra* text accompanying notes 55-56.

120. *See* COLMAN, *supra* note 50, at 138-39, 157-59, 225; MCLEAN, *supra* note 51, at 133-34; Taylor & Ward, *supra* note 53, at 370.

121. *See* HARDIN, COLLECTIVE ACTION, *supra* note 50, at 57-59; Hampton, *supra* note 60, at 255-56; Taylor & Ward, *supra* note 53, at 355-60, 362, 366-67, 370; Hugh Ward, *The Risks of a Reputation for Toughness: Strategy in Public Goods Provision Problems Modeled by Chicken Supergames*, 17 BRIT. J. POL. SCI. 23, 28-31 (1987).

122. *Cf.* SUGDEN, ECONOMICS OF RIGHTS, *supra* note 51, at 80-81.

people's true intentions or the proximity to the critical point of minimal, yet still worthwhile, preservation.[123]

Minimization of the information problem is also due to the division of the conservation game into smaller, localized games. Although numerous districts and individual buildings may be worthy of preservation, the fate of each is determined within an independent, local game. Breaking up the conservation game into a large number of separate games, involving a relatively small number of people, increases the availability of information and communication, thus enhancing the probability of successful cooperation.[124]

Finally, consider the possibility of voluntary conservation in the case where only selected individual buildings in an area, rather than the district as a whole or a large part of it, are worthy of preservation. No collective action problem is involved if a person may reap the fruits of cultural conservation by acting alone. Sometimes, self-preservation of a building suffices to increase its market value, regardless of the actions of other property owners. As mentioned earlier, banks, law firms, and restaurants located in cultural buildings may enjoy prestige value that is actually enhanced by the fact that other structures in the area, including those housing their competitors, lack cultural worth.[125] In such cases, each owner's independent incentive to preserve is enough to ensure the continued existence of cultural buildings.

The situation is different, however, if the realization of preservation benefits is conditioned, at least to a significant

123. Compare this to the preservation of species—for example, a viable whale stock. Usually, people will have less information regarding other people's true intentions and whether one's own efforts are needed and capable of saving whales from extinction.

124. *Cf.* ELSTER, ULYSSES, *supra* note 74, at 146; SUGDEN, ECONOMICS OF RIGHTS, *supra* note 51, at 138-39. Note that it is not the size of the group, in itself, that is important, but rather the existence of factors that are often (though not always) correlated with small size: information, communication, commitment, accountability, individuation, and so on. *See* COLMAN, *supra* note 50, at 215-25; ELLICKSON, *supra* note 111, at 182; SUGDEN, ECONOMICS OF RIGHTS, *supra* note 51, at 160-61; Henry Hamburger et al., *Group Size and Cooperation*, 19 J. CONFLICT RESOL. 503, 519-20, 524 (1975); Runge, *Externalities*, *supra* note 96, at 603, 605; Runge, *Institutions*, *supra* note 75, at 169-70. *But see* MCLEAN, *supra* note 51, at 178-79; ULLMAN-MARGALIT, EMERGENCE, *supra* note 108, at 27-28. Group size, however, is somewhat less significant in the conservation game. Because the existence of both cooperation (preservation) and non-cooperation (demolition) is very conspicuous and easy to ascertain, factors such as information and monitoring exist in relatively large groups as well.

125. *See supra* text following note 32.

extent, on the conservation of other individual buildings as well. The resulting game is either an AG (of the second version discussed earlier) or a CG.[126] The prospects of successful cooperation may be somewhat lower than in the case of district preservation, as there may be less information,[127] communication, and solidarity between the relevant actors. The assumption of lessened solidarity and commitment in such circumstances, however, may be contested. Indeed, in the case of selected buildings' preservation, owners cannot expect reciprocal acts of conservation from the neighbors who do not own cultural buildings. Yet, cultural preservation is not the only possible form of reciprocation. Long-term relationships between neighbors create other ways in which gratitude, group solidarity, and community ties can manifest themselves. For example, owners of ordinary buildings can make an effort to keep their own buildings in excellent condition and enhance the aesthetic appearance of the area.[128] Furthermore, the games that are expected to be played in this scenario—AG and CG—are both relatively cooperative games, and many of the special features of building preservation that tend to enhance cooperation remain: the object of conservation is already in existence; individual contribution is retrievable and visible; non-cooperation is irreversible; and the influence of anti-preservationists is negligible.[129] The likelihood of cooperation is, therefore, relatively high even in this case.

### 3. *Absence of Direct Financial Benefit From Preservation*

The preceding Part discussed cases where preservation increases the market value of cultural buildings. It showed that the prospect of voluntary preservation in such circumstances is high. This section analyzes the feasibility of cooperation where no direct financial benefit exists.

Preservation may entail both benefits and costs. At times, the beneficial and detrimental effects offset one another and

126. Regarding the altered version of the AG, see supra text accompanying notes 114-16.

127. Note, however, that the need for precise and full information in order to achieve cooperation in an AG or a CG is debated. Some scholars predict successful cooperation even without it. *See supra* text accompanying notes 97-101.

128. I am grateful to Professor Robert Ellickson for pointing this out to me.

129. *See supra* text accompanying notes 102-07 and 122-23.

therefore have no effect on the market value of cultural buildings. In other cases, there are net costs. This section examines voluntary preservation in the absence of either financial incentive or disincentive. Thus, it is assumed that these costs, when they exist, are relatively small. In other words, preservation either produces no effect on market value or produces only a slight negative effect.[130]

Absence of direct financial benefits does not necessarily imply that voluntary preservation is not feasible. Market value is not the only value that property owners enjoy. As explained above, "existence value" may be derived from the mere fact that buildings of historical and aesthetic importance are maintained. Existence value represents altruistic sentiments regarding other people's enjoyment of cultural buildings, including one's heirs and future generations, and the intrinsic worth of cultural structures.[131] Existence value may prompt individuals to preserve cultural buildings even in the absence of financial benefit.

If people experience existence value that is higher for them than the costs of conservation, they will prefer preservation over non-preservation. As a result, the analysis in the former section—based on Assurance and Chicken Games—wholly applies to this case as well, and the probability of voluntary cooperation is similarly high. However, one cannot assume that all relevant property owners attach existence value to cultural buildings, either at all or to the same extent. In contrast to financial benefits, it stands to reason that people's preference ordering regarding existence value differs considerably. The presence of people with either anti-preservation or pro-preservation preferences may significantly affect the outcome of the conservation game.

One may roughly classify the relevant property owners into three groups. The first group consists of those people who will preserve their cultural buildings regardless of how many others do so. For these pro-preservationists, cultural conservation has high existence value. They are willing to forgo, at least to a certain extent, financial benefits in order to preserve cultural buildings and will do "their share" regardless of the behavior of

130. On the economic effect of preservation, see supra Part II.B. For discussion of cooperation when the economic burden of preservation is heavy, see infra Part III.C.4.

131. *See supra* text accompanying notes 47-49.

others. A possible preference ranking of such individuals is as follows: (I) We all contribute; (II) I contribute, even if others do not; (III) Nobody contributes; (IV) Others contribute while I do not.[132] The second group includes individuals who will not preserve no matter how many others do; they are called anti-preservationists. In this category, there are people who are ideologically opposed or indifferent to conservation, as well as individuals who are unwilling to incur the costs of preservation or who do not believe that their own building merits conservation. A possible preference ranking of anti-preservationists is: (I) I do not contribute, but enough others do; (II) Nobody contributes; (III) We all contribute; (IV) I contribute, but not enough others do. More extreme anti-preservationists may rank option (II) the highest, and option (I) the second-best.[133] Finally, there is the third group of people who will preserve if and only if enough others do. The first and second groups do not base their behavior on the third group's choices, but the behavior of these two groups has a crucial influence on the third group's choices.

If the first group is sufficiently large, it may tilt the scale in favor of preservation for the third group as well, or at least for enough people from this group to make the cooperative outcome sustainable. Similarly, if both the first and second groups are small, their effect on the "conditional" third group may be negligible. The final outcome will depend on the game played within the third group, which may be an AG or CG, as discussed above. However, if the second group is sufficiently large, the opposite outcome ensues. The existence of the second group is likely to induce individuals from the third group to opt for demolition, which in turn will induce others from this group to demolish, and so forth.[134] In other words, a chain reaction or "domino effect" takes place, resulting in too few cultural buildings preserved. Note that this may happen even if players in the third group have AG-type preferences, that is, even if they are playing a relatively cooperative game. Because individual cooperation in an AG depends on the cooperation of a

132. *Cf.* JON ELSTER, THE CEMENT OF SOCIETY: A STUDY OF SOCIAL ORDER 192-94, 203, 205 (1989) (discussing a social norm labeled "everyday Kantianism").

133. *See supra* Part III.B.5.

134. For an illuminating analysis of the "critical mass" phenomenon and related issues, see SCHELLING, MICROMOTIVES, *supra* note 83, at 91-110, 216-24.

sufficient number of others, if enough people believe that too few people are cooperating, they will choose non-cooperation as well.

Obviously, the occurrence of either phenomenon—the final cooperative or non-cooperative result—depends on various factors besides the relative size of the three groups. One such factor is the minimal quantity or percentage of cultural buildings that must be maintained for meaningful preservation to exist.[135] For example, successful district preservation may depend on the conservation of a vast majority of its cultural buildings. In other cases, the goals of preservation may be realized, at least to a great extent, even when a smaller percentage of the district's cultural buildings remains.[136] The former situation is the more "fragile" because fewer non-cooperators or anti-preservationists are sufficient to frustrate the collective goal.[137]

Another important factor is the existence and intensity of community feelings and relationships between property owners. As explained above, these may increase cooperation by leading individuals to consider other people's preferences for preservation and by educating them with regard to the cultural value of their own buildings.[138] Therefore, one can expect the anti-preservation group to be smaller in cases where these sentiments are significant.[139] Roughly speaking, the existence of such sentiments is more likely in the case of district preservation than in the case of individual buildings' conservation.[140]

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135. Retention of too few buildings (as well as too many) does not constitute preservation. *See supra* text accompanying notes 58-60. Therefore, if the pro-preservation group is too small to achieve preservation on its own, and not enough people from the third group join it, preservation fails.

136. *See supra* text following note 93.

137. The preservation of selected, individual buildings will usually occur in the latter, less fragile, situation. *See supra* text accompanying notes 65-69.

138. *See supra* text accompanying notes 108-13.

139. A person is considered "anti-preservationist" if *after* considering other people's preferences *for* cultural preservation, her own preference ordering still ranks mutual non-cooperation (non-conservation) higher than mutual cooperation (conservation). *See supra* text accompanying note 133. If concern for the welfare of others induces a person to contribute to preservation, then she does not belong to the anti-preservation group. Thus, the existence and intensity of community feelings and relationships reduce the size of the anti-preservation group. *See* COLMAN, *supra* note 50, at 301-02; Harsanyi, *supra* note 51, at 94-96 (discussing the influence of considering other people's welfare on the preference ranking of a PDG).

140. *See supra* text accompanying notes 111-12, 125-26.

An additional, highly relevant factor is the cost of preservation. Indeed, the present discussion assumes that the negative effects of preservation are, at most, small. Even under this assumption, however, one may expect that, other things being equal, the influence of anti-preservationists on successful voluntary cooperation will be smaller where the costs of preservation are lower.

The special characteristics of building conservation may not suffice to tilt the scale in favor of voluntary preservation. That cultural buildings need not be produced, that individual contribution is retrievable and visible, and that non-cooperation is irreversible, are facts that may convince people belonging to the third group to postpone possible demolition until the behavior of other people is observed. Although such postponement is important because it allows time for deliberation and persuasion and prevents choices based on lack of information or mistakes regarding others' true intentions, it may not suffice, *in some cases*, to alter the ultimate non-cooperative outcome. If the third group's players have AG preferences, then although their first preference is universal cooperation, their cooperation depends on the reciprocal cooperation of enough others. Therefore, if they believe that the number of cooperators has not reached the minimal, sufficient level, they will opt for the non-cooperative choice. In other words, although demolition is postponed, it will eventually occur.

A similar result may ensue if the third group's preferences are better captured by the CG model. It is true that a CG player prefers lone contribution to universal non-cooperation and non-provision of the good. Therefore, in theory, the larger the expected anti-preservation group, the higher her motivation to contribute. She understands that the anti-preservationists' threat to demolish is no bluff, because they truly prefer universal non-cooperation to universal cooperation. Consequently, the supply of the good is dependent on the contribution of people like her, and she will have to forgo attempts at bluffing or pre-committing to non-cooperation.[141] This analysis holds only if the combined efforts of willing contributors will suffice to supply the good. If CG players realize that their conservation efforts will not reach

141. *See supra* text accompanying notes 120-23; *see also* TAYLOR, *supra* note 50, at 39-40.

the minimal level necessary for effective preservation of a certain style or period, they will withdraw their contributions. There is no point in wasting effort on a hopeless project. Thus, if the anti-preservation group is large enough, it may cause despair in CG players as well.

In summary, when preservation has a neutral or small, negative effect on the market value of buildings, voluntary cooperation may be possible, but this will depend on various factors. Successful cooperation is highly dependent on public attitudes towards cultural preservation and on the existence of anti-preservation and pro-preservation preferences. Generally speaking, the prospect of district preservation may be higher than that of individual buildings' conservation, especially when the former does not require that a vast majority of the district's buildings be preserved.

### 4. *Preservation Significantly Decreasing Market Value*

When preservation requires maintenance and repairs that would not have been needed or undertaken if the building lacked cultural worth, or when it restricts the site's use, it may negatively affect the property's value. Preservation might not only prevent building owners from realizing potential gains—from constructing a new and higher building or adding more floors to an existing structure, for example—but also require expenditures that outweigh their benefits for the owner.[142]

When conservation significantly decreases the market value of buildings, the prospects for voluntary cooperation are slim. This is not to say that voluntary preservation is impossible. In fact, real-world examples exist in which private individuals have willingly dedicated very large sums of money for cultural preservation. A most famous case is Rockefeller's undertaking of the complete restoration and preservation of an entire town, Colonial Williamsburg, and operation of it as a museum.[143]

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142. *See supra* text accompanying note 28.

143. *See* Pyke, *supra* note 27, at 43, 53. Another famous example, from a different sphere, is Howard Hughes's purchase of a local television station to satisfy his taste for watching Western movies during the small hours of the morning. Hughes paid 3.8 million dollars for the station, and a potential quarter of a million people were able to watch the same movies with him. *See* HARDIN, COLLECTIVE ACTION, *supra* note 50, at 42; MCLEAN, *supra* note 51, at 63.

One may reasonably assume, however, that such cases are quite rare. Although altruism exists and is a non-negligible force in people's lives, when the economic burden of preservation is heavy, one cannot expect voluntary efforts to supply the socially desirable level of cultural buildings. In other words, all three preference rankings offered in the previous section may exist, in principle, in the case of substantial value decrease, but most people in such circumstances will belong to the group of "anti-preservationists," namely, those who will not preserve even if others do. As a result, not enough cultural buildings will be preserved. Although this is obvious, some further discussion is necessary to point out the special severity of the burden imposed by preservation.

In the typical case of public good provision, production is costly, but once the good is provided, all contributors enjoy net benefits from its existence, though they benefit less than free-riders do. Therefore, the discussion is usually centered on whether and how free-riding can be minimized so as to realize the beneficial collective goal.[144] Building preservation is a special case, in the sense that its provision can sometimes inflict net costs on the people who are to provide it. Even if all those capable of self-preservation—that is, the owners of cultural buildings—contribute to the collective effort, the benefits of conservation still accrue to a *much larger group*—potentially millions of people—the citizens of a country and its tourists, for example. In other words, most of the people enjoying preservation are necessarily "outsiders" and free-riders.[145] Consequently, even when the social goal is attained and overall net benefits exist, it is still possible that the *contributors* to preservation suffer net losses.

The burdens of preservation are not limited to those borne by cultural buildings' owners, such as maintenance expenses, repair costs, or restrictions on utilizing the land's development potential. Assuming that there is a market demand for this unrealized development potential (for example, a more intensive or different use), the development will be shifted to sites lacking cultural structures and be realized by the owners of

144. *See supra* Part III.B.6.

145. Preservation is usually a pure public good. *See supra* text accompanying notes 43-49.

these parcels.[146] The latter not only freely enjoy the benefits of preservation, but are "rewarded" with the cultural site's development rights as well. If, however, these development rights do not materialize in other parcels—at all, or in sites that are close to their former location—then third parties might be injured. These are people who do not own cultural buildings themselves but would have preferred the alternative use or development that was prevented as a result of conservation. They may not be able to enjoy their preferred alternative in a different site or may be able to enjoy it only to a lesser degree.

If individuals do not recognize these indirect injuries, the existence of the injuries will not affect their behavior.[147] To the extent that individuals do perceive these additional injuries and the causal connection between the injuries and the act of preservation, this knowledge reduces their motivation to preserve voluntarily.[148] This is so because such injuries intensify the feeling, resulting from the more obvious costs, that preservation "singles out" relatively few individuals to bear the costs of supplying cultural benefits to the public. Because a relatively small minority of the existing buildings merits special protection from demolition, preservation, by its very nature, is neither a widely spread nor an evenly distributed burden. It has a distinct non-egalitarian quality.[149] Therefore, it is unreasonable to expect that people will voluntarily preserve when the burden is substantial. In contrast, people often accept even non-negligible burdens if they perceive them to be widely and randomly distributed throughout society.[150]

One need not be ideologically opposed to preservation to resist it when the burden is heavy. It may be expected that even

146. This will occur through consequent changes in the planning or zoning regulations. *See* LICHFIELD, *supra* note 8, at 147. If there is no market demand for the unrealized development rights, then the cultural building owner suffers no injury from the restriction of her development because she would not have been able to realize any potential profit in any case.

147. *See* Daphna Lewinsohn-Zamir, *Compensation for Injuries to Land Caused by Planning Authorities: Towards a Comprehensive Theory*, 46 U. TORONTO L.J. 47, 98-100 (1996).

148. One may assume that the existence of indirect injuries is more visible and clear in the case of selected buildings' conservation than in the case of district preservation. In the latter case, the close proximity of other cultural buildings masks, to some extent, the uniqueness of the preservation phenomenon.

149. *See* Rose, *Preservation and Community*, *supra* note 2, at 497, 502. For the importance of the extent of an injury's distribution, see Lewinsohn-Zamir, *supra* note 147, at 87-90.

150. Consider, for example, income taxes or a universal and compulsory military service. *See* Lewinsohn-Zamir, *supra* note 147, at 53-57.

those who generally favor building conservation will oppose it in such circumstances. It is plausible that the following preference ranking will apply to most individuals in these circumstances: (I) I do not contribute, but enough others do; (II) Nobody contributes; (III) Everybody contributes; (IV) I contribute, but enough others do not. When the economic burden of preservation is substantial, people will prefer non-provision of the good to provision that is conditioned on the sacrifice of themselves and others. In addition, mutual cooperation in this scenario is far from universal cooperation. Self-preservation, by definition, can only be the burden of a relatively small group of landowners whose buildings have special cultural worth. This preference ranking does not resemble a PDG, because universal cooperation is *not* preferred to universal non-cooperation.[151] Consequently—unlike the case of a PDG—individuals face no "dilemma." They will never have reason to regret their decision not to self-preserve. Non-cooperation both minimizes the worst possible result, (II), and offers a chance of realizing the most preferred one, (I). By cooperating, individuals will always do worse, receiving either option (III) or (IV).[152] Therefore, the prospects of voluntary cooperation when preservation has a substantial detrimental effect are very low.[153]

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151. For an explanation of the preference ordering of a PDG, see supra text accompanying note 50.

152. In contrast, a PDG creates a real social dilemma: Although non-cooperation is the dominant choice, universal non-cooperation is considered by all players to be inferior to universal cooperation.

153. It may be claimed that in such circumstances, the prospects of voluntary self-preservation of cultural buildings by their owners (which, indeed, are bleak) should not be examined. Rather, one should concentrate on the possibility that individuals who do not own cultural structures will organize and purchase such buildings or preservation easements from their owners. Admittedly, such a scenario is not impossible, as these organizations do, in fact, exist. An important example is the National Trust for Historic Preservation. Among other things, this private, non-profit organization maintains some historic properties as museums, administers grant and loan programs, provides information and professional advice on preservation, and assists in coordinating the efforts of preservation groups. For a general discussion of conservation easements, see Katz, *supra* note 45. This different form of collective action is not discussed here for several reasons. First, it is reasonable to assume that private organizations by themselves will not suffice to solve the problem. Donation and participation in these organizations is a public good. Unlike the case discussed in this Article—self-preservation of cultural buildings—this other good does not enjoy any of the special features that enhance the prospects of cooperation. For example, the good does not exist, but rather needs to be produced (money must be collected in order to "purchase" preservation); individual contribution is not retrievable (and thus, the fear of being a "sucker" is not eliminated); and the existence and extent of other people's cooperation or non-cooperation is not easily observed and monitored (lack of information may cause mistakes and prevent

### 5. *Cultural Buildings that Are "One of a Kind"*

Buildings of cultural worth are a minority of the buildings existing today. Cultural structures that are "one of a kind" (OAK) are a small minority within the cultural buildings group. The term OAK refers to the truly unique structures of exceptional historic or aesthetic merit. Such buildings, by definition, have no close substitutes. Their continued protection constitutes a significant and complete act of "preservation," and their destruction an irreparable frustration of a certain preservation goal. As explained before, these features do not characterize most cultural buildings. With respect to the less-exceptional structures, a process of selection and dilution takes place. Only a certain quantity of any one type of building should be preserved. Although there is some minimum below which conservation will have failed, no one structure is essential or sufficient for preservation's success.[154]

The rarer the cultural building, the more its preservation game is a "one-shot" game. In addition, the success or failure of self-preservation depends on the decision of one person—the owner. In a sense, one may claim that no "game" is being played. By the very definition of OAK buildings, there is no issue of reciprocal cooperation between individuals. The owner has to decide whether or not to grant cultural benefits to the public, and this decision does not depend on the preservation decisions of other people. Consequently, the owner faces no information problem regarding other people's preferences, true intentions,

appropriate responses to the behavior of others). Consequently, the traditional analysis pertinent to a PDG (and in certain circumstances of a CG as well) applies, with the result of under-provision of the public good. Second, because the traditional PDG analysis in the context of public goods is already discussed in numerous articles and books, there is no need to reproduce it here. The preferable focus here is on the unique features of self-preservation that create different games with different outcomes not previously discussed in the literature. Finally, much of the activity and success of private organizations is related to lobby formation that influences policy makers and policy decisions. In other words, most of the private organizations' achievements are indirect—through government intervention that *coerces* the supply of the good—rather than direct preservation through purchase and provision of the good themselves. *See* HARDIN, COLLECTIVE ACTION, *supra* note 50, at 135; Krutilla, *supra* note 48, at 781 n.13. Because the focus here is on the possibility of voluntary private provision, this ultimately coercive mode of supply need not be discussed.

154. *See supra* text accompanying notes 18-21, 58-59, 65-67, 79-80. Admittedly, the distinction between OAK cultural buildings and the less-important ones is not always clear-cut, but rather a matter of degree. For example, even within the *group* of Bauhaus buildings, it is preferable to preserve the more impressive specimens of this style. For simplicity's sake, however, it will be assumed that it is possible to divide cultural buildings into these two distinct categories.

or expected behavior; has no fear of being a "sucker," as her independent act of self-preservation will suffice to achieve the goal; and cannot be tempted by the possibility of free-riding on the efforts of others, as only she can supply this particular good.

May it be concluded, in light of these special features, that the prospects for voluntary preservation of OAK buildings are high? Not necessarily. For although the various considerations facing the owner in the case of an OAK building are clearer and less complex, the gap between the private burden and the public benefit is the most extreme as to an OAK building. Such buildings usually not only have a local importance, but a national one as well. Consequently, the magnitude of the public's free-riding on the owner's efforts is immense, in stark juxtaposition to the small number of individuals conferring such benefits on the public.

Subject to these comments and qualifications, a decision whether to preserve voluntarily an OAK building will be influenced by the various special factors associated with building conservation. Because OAK structures are already in existence and need not be "produced," preservation will depend on whether their owners have an incentive to demolish them. This, in turn, will depend both on the economic costs and benefits of preservation—whether it enhances or decreases market value, for example—and the scope of owners' pro-preservation attitudes, including the extent to which they experience "existence value."[155]

An important consideration in this context is that OAK buildings might be preserved as museums. That is to say, the special importance of such buildings may justify public access to their interiors and, thus, elimination of their private functions. This does not necessarily require expropriation by the State. The owner herself, or some other private entrepreneur, may wish to realize this transformation and cover expenses with entrance fees. But if a private museum is not an economically feasible option, or if it is deemed important that the public have *free* access to the building, then public purchase and operation may be necessary.[156]

155. *See supra* Parts III.C.2-4.

156. Because a public good is involved here, free entrance may also be the pareto superior option. *See supra* note 45.

## IV. NORMATIVE IMPLICATIONS

This Article focuses on the neglected issue of the justification for government intervention in cultural building conservation. It employs game theory to analyze the feasibility of voluntary self-preservation of such buildings by their owners. Cultural preservation is a good characterized by many unique features. These features transform the "conservation game" into games that do not resemble the standard Prisoner's Dilemma Game that is typically applied to the supply of public goods.

Generally speaking, the circumstances surrounding building preservation may be divided into three categories. The first category consists of cases in which the private and public interests involved in building conservation converge. This Article has shown that where preservation increases buildings' market value, an Assurance Game is often the appropriate model. An Assurance Game is considerably less competitive than a Prisoner's Dilemma Game, and the prospects for successful cooperation are especially high with regard to building preservation. Successful conservation can be expected both in the case of district preservation and in the case of individual buildings' conservation.[157] The second category includes cases where conflicts of interest can exist but mutual cooperation may still be possible. When preservation confers no direct financial benefit on building owners, voluntary preservation depends on various factors. It is highly correlated to people's valuation of cultural preservation and to the existence of anti-preservation and pro-preservation preferences. In this category, the prospects for district preservation are somewhat higher than those for individual building conservation.[158] The third category is comprised of cases where the possibility of voluntary cooperation is extremely low. Where preservation has a substantial detrimental effect on market value, the consequent game is even less cooperative than a Prisoner's Dilemma. In such cases, people usually will not face a "dilemma" at all, and

157. It was also shown that even where the resulting game is a Chicken Game, the likelihood of cooperation in these cases is higher than that predicted by the standard analysis of this game. *See supra* Part III.C.2, especially text accompanying notes 122-23.

158. *See supra* Part III.C.3.

thus will not regret their non-cooperative choices. In fact, it is unreasonable to expect them to behave otherwise.[159]

The most obvious conclusion from this discussion is that government intervention is unnecessary in cases falling into the first category and that the need for intervention has to be assessed and cannot be assumed automatically in cases belonging to the second category. Other important conclusions may be drawn as well.

First, it may be relatively easy to "transform" cases from the second and even the third category to the first one. This may be done by creating economic incentives for preservation, such as granting transferable development rights,[160] allowing new uses for cultural buildings,[161] granting tax benefits[162] or convenient loans, and the like. Although all of these instruments are forms of government intervention, they are much less intrusive and coercive than the widely used form of direct intervention—restricting demolition and compelling costly maintenance and repairs. Indeed, the various economic incentives mentioned above are already in use as a supplement to the more severe, direct restrictions on the utilization of land.[163] Authorities should make much greater use of these

159. *See supra* Parts III.B.5 and III.C.4.

160. The technique of transferable development rights (TDR) allows the shift of non-utilized development rights from the cultural building's site to another site owned by the same person or by other people. (In the latter case, the recipient purchases the development rights from their former owner.) *See* COSTONIS, SPACE ADRIFT, *supra* note 8; John J. Costonis, *The Chicago Plan: Incentive Zoning and the Preservation of Urban Landmarks*, 85 HARV. L. REV. 574 (1972); John J. Costonis, *Development Rights Transfer: An Exploratory Essay*, 83 YALE L.J. 75 (1973); Norman Marcus, *Air Rights in New York City: TDR, Zoning Lot Merger and the Well-Considered Plan*, 50 BROOK. L. REV. 867 (1984);.Dennis J. McEleney, *Using Transferable Development Rights to Preserve Vanishing Landscapes and Landmarks*, 83 ILL. B.J. 634 (1995).

161. For instance, altering the permissible use of the cultural building from residential to commercial (for example, lawyers' or accountants' offices) may offset the decrease in value caused by restrictions on new development. *See* LICHFIELD, *supra* note 8, at 148; Katz, *supra* note 45, at 374. Because preservation in most cases requires only the maintenance of the exterior of cultural buildings, this form of "compensation" will not hamper the goal of preservation.

162. *See* ROGER W. SUDDARDS ET AL., LISTED BUILDINGS: THE LAW AND PRACTICE OF HISTORIC BUILDINGS, ANCIENT MONUMENTS AND CONSERVATION AREAS chs. 9, 10 (1988). In actuality, tax relief diminishes the available resources of local authorities and is therefore a less popular measure for inducing preservation. *See* COSTONIS, SPACE ADRIFT, *supra* note 8, at 23; Katz, *supra* note 45, at 373.

163. *See* RICHARD C. COLLINS ET AL., AMERICA'S DOWNTOWNS: GROWTH, POLITICS & PRESERVATION, 30-33, 36, 59-61, 74-76, 93-98, 135-40, 153-55 (1991); SUDDARDS ET AL., *supra* note 162, at chs. 4, 5; Gose & Katz, *supra* note 4; Rose, *Preservation and Community*, *supra* note 2, at 498-99; Siedel, *supra* note 4; Bradford J. White & Lee Keatinge, *Report of*

instruments, preferably *in lieu of* coerced preservation. It may very well be that relatively moderate tools suffice to turn the conservation game into a cooperative Assurance Game, in which universal cooperation is the most-preferred option, and preservation is thus performed voluntarily.[164] This transformation is often feasible because many buildings currently included in the third category are not in a state of physical or functional obsolescence. Rather, it is the very high value of new and more intensive development that creates the incentive to demolish viable cultural buildings.[165]

This recommendation purports to solve the collective action problem by making cooperation more attractive. It may be contrasted with an alternative solution: rendering the non-cooperative option impossible.[166] This may be done by prohibiting the destruction or alteration of cultural buildings and rendering such acts illegal. It is preferable, however, to grant a "reward" rather than to inflict a punishment because the former is both fairer and more efficient.

As explained above, preservation is a burden imposed on the relatively few individuals who happen to own cultural buildings. It therefore has a clear "singling out" effect or non-egalitarian quality. This redistribution of wealth cannot be justified on distributive grounds, as owners of cultural buildings are not necessarily rich, and their land may be their main property. Even if this were not so, one must remember that the benefits of preservation accrue not only to poor people, but to the entire population, including the rich.[167] In other words, the wealth

*the Subcommittee on Historic Preservation and Architectural Control Law*, 23 URB. LAW. 699 (1991).

164. This recommendation assumes (reasonably, I hope) that not too many people hold strong ideological views *against* cultural preservation. *See supra* Part III.B.5. That is to say, elimination of a financial incentive to demolish will suffice to encourage enough people who are indifferent or slightly opposed to preservation to maintain their cultural buildings.

165. *See supra* text accompanying notes 11-12; COSTONIS, SPACE ADRIFT, *supra* note 8, at 10-11. It is interesting to note that a large portion of Boston's historic buildings have no direct protection from demolition or alteration. Their only protection is a zoning ordinance limiting height and density and requiring design review. Therefore, Boston is a test case of whether preservation may be achieved with more moderate means, by eliminating the incentive to demolish caused by the existence of unrealized development rights. *See* COLLINS ET AL., *supra* note 163, at 40, 47-50.

166. *See* ULLMAN-MARGALIT, EMERGENCE, *supra* note 108, at 30-40; Dawes, *supra* note 81, at 174-75.

167. One may even claim that preservation has a regressive effect, benefiting the rich to a greater extent than the poor. *See* HARDIN, COLLECTIVE ACTION, *supra* note 50, at 69, 86-89; MCLEAN, *supra* note 51, at 72; Costonis, *Law and Aesthetics*, *supra* note 2, at 363-71;

taken from cultural-building owners is transferred to the very rich as well, thus having arbitrary and discriminatory distributive effects.[168] For these reasons, coercing preservation in cases where its economic burden is heavy inflicts severe costs on a small minority of property owners and cannot be defended on the grounds of a desired redistribution of wealth.

In addition, better results can be attained if preservation is made an attractive, beneficial option. It may be relatively "easy" to issue a prohibition on demolition but very hard to enforce adequate maintenance of cultural structures where the necessary repairs are uneconomical from the owner's point of view.[169] Consequently, the phenomena of neglected and deteriorated cultural buildings and even of "intentional-accidental" destruction are not rare.[170] It is preferable to create circumstances in which owners have positive incentives for voluntary self-preservation.

Not all of the above-mentioned economic incentives are costly. Adaptive reuse of older buildings and transferable development rights (TDR), for example, are not costly. The latter option may be viewed as especially fair. As explained earlier, the development rights of the site where the cultural building is located will often shift to sites without cultural

Lazarus, *supra* note 3; Rose, *Preservation and Community*, *supra* note 2, at 512-17.

168. *See* Lewinsohn-Zamir, *supra* note 147, at 58-60.

169. This is so even if the authority theoretically has the power to coerce such positive measures as maintenance. Even if the authority can execute the needed repairs by itself (and thereafter require the owner to reimburse it), it often lacks the funds and resources to do so.

170. *See* COSTONIS, SPACE ADRIFT, *supra* note 8, at 9-10; LICHFIELD, *supra* note 8, at 132, 147-48; Ralph M. Stein, *Buildings That Go Crash in the Night: A Special Problem in Historic Preservation Law*, 16 REAL EST. L.J. 242 (1988). Another possible inefficiency mentioned in the literature is that an uncompensated, heavy burden will discourage people from constructing original buildings in the first place, to avoid the risk of future injury. *See* Rose, *Preservation and Community*, *supra* note 2, at 500-01. But the possible scope of this phenomenon is diminished by the fact that many structures preserved today were not considered special or creative at the time of their construction. For instance, it may be desirable to preserve a certain period style that is now rare but was once quite common. A similar example is the case of a building that is preserved due to an important historic event to which it was connected, and not for its architectural merit. In other words, few buildings are built with the intention that they be "monuments" or "landmarks," and it is difficult to predict whether any current structure will merit preservation in the future. *See* LICHFIELD, *supra* note 8, at 145. When the risk is unknown or low, it cannot be taken into consideration. Consequently, the possibility of future preservation will not have a significant effect on the behavior of builders. It may, however, have a substantial effect on future owners. These people may hurry to demolish a building that they fear is gaining cultural importance before their actions are restricted by government intervention.

value.[171] That is to say, a "transfer" of development rights will take place *in any case*, and a program of TDR only guarantees that they will not be freely enjoyed by other people at the cultural building owner's expense. Either the rights will be transferred to another parcel owned by the owner, or the recipients of the rights will pay her their value. TDR's negative effects on third parties can be minimized by requiring, for example, that the development rights materialize in a place as close as possible to the original site, thus constituting a close substitute to the uses forbidden on the original parcel, and that the recipient parcels are suitable, from a planning perspective, for increased density or height. When these conditions are observed, TDR may be the fairest solution for third parties. Whereas monetary compensation and tax relief remedy the injury to the cultural building's owner alone, TDR can minimize preservation's detrimental effect on third parties as well.

In reality, one finds many cases in which preservation is coerced by the state and imposes heavy economic burdens on property owners. That is to say, cases belonging to the third category described above are not a rare phenomenon. This is due to the current interpretation of the compensation requirement of the Fifth Amendment,[172] permitting regulation that causes enormous reductions in value without compensation, so long as some reasonable use of the land remains. In the famous *Penn Central* case, the United States Supreme Court used this interpretation to reject a "takings" claim for landmark designation.[173] As a result, public authorities often ignore the costs that preservation imposes on individuals because the government is not forced to internalize those costs through compensation payments.[174] For the same reason, officials lack sufficient motivation to minimize private losses by granting economic incentives to cultural buildings' owners. This state of affairs can be changed by altering the authorities' incentives. Broadening the right to compensation would encourage

171. *See supra* text accompanying note 146.

172. "[N]or shall private property be taken for public use, without Just Compensation." U.S. CONST. amend. V.

173. *See* Penn Central Transp. Co. v. New York City, 438 U.S. 104, 130-31, 136 (1978).

174. For a discussion of fiscal illusion in the context of compensation for injuries to the value of land, see Lawrence Blume & Daniel L. Rubinfeld, *Compensation for Takings: An Economic Analysis*, 72 CAL. L. REV. 569, 620-22 (1984).

authorities to avoid or minimize injuries to the value of property by making preservation an attractive economic option.[175] This, in turn, would encourage property owners to self-preserve their buildings. In other words, the reversal of authorities' incentives in this context would change the preference rankings of building owners. Consequently, the conservation game might be transformed into a cooperative AG in which the likelihood of successful cooperation would be high and compulsory state intervention unnecessary. Enhancing the extent of voluntary preservation would minimize both the interference with individuals' autonomy and the risk of over-regulation—namely, excessive preservation—by public authorities.

Another conclusion to be drawn from the discussion is that some destruction of cultural buildings is in itself neither a proof of the failure of voluntary cooperation nor a justification for coercive governmental intervention. As explained, not all buildings of cultural worth should be conserved, and "preservation" is a process of discrimination and selection within this pool. The "conservation game" is not a single game but rather many, played with regard to each individual landmark or cultural district. The overall success of the preservation enterprise is *not* conditional on successful cooperation in *all* of these games. Therefore, a certain amount of demolition or failed cooperation in some of the local games should not be regretted, and state intervention cannot be justified by this alone. Voluntary preservation should be deemed successful if the outcome of enough of these games is cooperative. An important exception is the unique or "one-of-a kind" structures. Their exceptional worth, coupled with the lack of close substitutes, requires much greater caution and care and justifies intervention if the private market cannot provide for their protection. Often, the best way to maintain such buildings is as museums, open to the public.[176]

In this context, a difference between state preservation and voluntary preservation should be noted. In the first case, the relevant state authority chooses the buildings that should be

175. For the argument that the right to compensation for injuries to development rights should, in general, be much wider than that afforded by current case law, see Lewinsohn-Zamir, *supra* note 147, at 113-26.

176. For a more detailed discussion of this, see *supra* text accompanying notes 155-56.

preserved from the larger pool of cultural buildings by applying, among other things, considerations of relative cultural merit. In the latter case, this selection is somewhat more arbitrary: cooperation is determined, in part, by factors unrelated to the cultural worth of the buildings, such as the availability of information or the communication and solidarity between people in the relevant district, and non-cooperation may be caused by people's ignorance of the cultural value of their buildings. The importance of this point may be debated. But leaving the case of the exceptional buildings aside, it can be argued that such "market selection" is not objectionable. It is sufficient that enough buildings of every important period or style remain. The identity of buildings within each group is less crucial. One might even argue that it is preferable that preservation be carried out by those who value it most.[177]

A final point to note is that the absence of sufficient voluntary preservation is not necessarily due to collective action problems, market failures, or the high costs of conservation. An alternative explanation is the lack of enough public support for cultural building preservation. The existence of anti-preservation preferences among individuals has been noted; they are both understandable and legitimate.[178] Such preferences not only exist and influence the outcome of the voluntary preservation game, but also deserve recognition and consideration by decisionmakers as well.[179] These preferences are not viewed as belonging to the group of perverse, immoral, or "meddlesome" preferences that should be ignored or "laundered out" in the process of social choice.[180] One may even claim that anti-preservationists should be less subject to reproach than people who play Prisoner's Dilemma or Chicken Games: the latter wish

177. Alternatively, because the distinction between OAK buildings and less-important ones is a matter of degree, see supra note 154, one may argue that government intervention can also be justified with regard to relatively valuable specimens within the group of "ordinary" cultural buildings.

178. *See supra* Parts III.B.5, III.C.3-4.

179. Consideration should be given at least to the less-extreme version of anti-preservation sentiments that does not object to preservation by others. On the difference between types of anti-preservation attitudes, see *supra* text accompanying notes 85-86.

180. The perverse group of preferences includes, for example, sadistic, racist, and "nosy" preferences based on opinions regarding the merit of other people's preferences. These opinions might regard what people should read or which god they should worship. *See* Robert E. Goodin, *Laundering Preferences, in* FOUNDATIONS OF SOCIAL CHOICE THEORY 75 (Jon Elster & Aanund Hylland eds., 1986).

that the collective enterprise succeeds but prefer to free-ride on the efforts of others.[181] In contrast, the former truly do not value preservation, making their unwillingness to contribute more justifiable. If the state decides to intervene in the conservation of cultural buildings, it should take anti-preservation attitudes into account.[182] They may be a factor, for example, in determining the quantity and identity of the buildings to be preserved, by restraining both the number of structures that would otherwise be chosen and the measure of public funding allocated to preservation projects.

181. Although Chicken Game players (in contrast to Prisoner's Dilemma Game players) prefer lone contribution to universal non-cooperation and non-production of the good, they also prefer that others toil to evade this negative result. Consequently, they have an incentive to pre-commit themselves to non-cooperation to force others into cooperation. Such behavior is also a form of free-riding. *See supra* text accompanying notes 52-56.

182. In contrast, the state may disregard Prisoner's Dilemma and Chicken Games players' preferences for free-riding. Because these people, in principle, support preservation, state coercion to provide funding for it—through taxes, for example—interferes less with their autonomy and will.