

ARTICLES

AND YOU MAY ASK YOURSELF, WHAT IS THAT BEAUTIFUL HOUSE:¹ HOW TAX LAWS DISTORT BEHAVIOR THROUGH THE LENS OF ARCHITECTURE

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¹ *Talking Heads, Once in a Lifetime, Remain in Light* (Feb. 2, 1981) (downloaded using iTunes).

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I. INTRODUCTION

“Most taxes distort economic decision-making.”² Taxes have long been used to influence the decision making of taxpayers. Using taxes to induce taxpayer actions may be effective; however, it also, regrettably, often results in distorting taxpayer behavior that subverts the original intention of the law. Whether the tax law should be used as a tool to provoke taxpayer behavior, if such use is effective or wise due to the inadvertent results is often debated. As one commentator noted regarding the tax incentives for historic tax provisions and the unintended consequences:

Discussion of the role of tax policy in the preservation movement should be approached from the viewpoint that U.S. tax laws are fundamentally a mechanism for raising the revenue needed by the government and that this process should be carried out in a fair, rational and straightforward manner. Before complicating the system through the use of tax laws for other purposes – whether to regulate conduct or to achieve societal or economic objectives – one should first test the availability of alternative methods for achieving those non-revenue goals.³

Scholarship has explored these unintended distortions, which sometimes conflict directly with Congressional intent, particularly with respect to corporate transactions.⁴ The beauty of studying how tax law has resulted in distortions to architecture is that the study presents a visual representation of these distortions and makes such unintended consequences noticeable or even obvious to taxpayers.

Adam Smith said it was clear a tax provision was bad if it encouraged evasion by taxpayers.⁵ He also said a tax was bad if it put taxpayers through “odious examinations of the tax-gatherers, and expose[s] them to much unnecessary trouble, vexation and oppression.”⁶

² J. Anthony Coughlan, *Land Value Taxation and Constitutional Uniformity*, 7 Geo. Mason L. Rev. 261 (1999).

³ Mortimer Caplin, *Federal Tax Policy as an Incentive for Enhancement of the Built Environment*, in TAX INCENTIVES FOR HISTORIC PRESERVATION 7 (G. Andrews ed. 1981).

⁴ My previous scholarship focuses on unintended distortions caused by tax code provisions in the corporate tax context. See, e.g., Meredith Conway, *Money, Money, Money; It's a Rich Man's World: Making the Corporate Tax Fair*, 17 U. PENN. J. BUS. L. 1181 (2015) (discussing how high corporate tax rates and lower tax rates on partnership income unintendedly result in horizontal inequity); see also Meredith Conway, *Stealth Inequity: Using Corporate Integration to Ease Unfairness in the Tax Code*, 2 WM. & MARY POL'Y REV. 53 (2010) (describing how the accredited investor standard combined with the high corporate income tax rate compared to lower tax rates on partnership income unintendedly results in a higher tax burden on investments by lower income taxpayers); Meredith Conway, *With or Without You: Debt, Equity and the Continuity of Interest*, 15 STAN. J. L. BUS. & FIN. 261 (2010) (discussing that the tax distinctions between equity and debt unintentionally encourage taxpayers to design instruments to maximize efficient tax treatment in spite of corporate features of the instrument); Meredith Conway, *Money for Nothing and the Stocks for Free: Taxing Executive Compensation*, 17 CORNELL J. L. & PUB. POL'Y 383 (2008) (describing that the taxation of excess executive compensation results in executive stock options; resulting in aggressive and imprudent decisions aimed to maximize stock prices); Meredith Conway, *Clowns to the Left of Me, Jokers to the Right, Here I am, Stuck in the Middle with You: The Inconsistent Tax Treatment of Security Holders in Tax-Free Reorganizations*, 56 CATH. U.L. REV. 99 (2006) (arguing that the tax treatment of security holders results in inefficient superior tax benefits to holders of equities or debt and discourages long term investment through debt).

⁵ 5 ADAM SMITH, THE WEALTH OF NATIONS 561–564 (1776).

⁶ *Id.*; 2 ADAM SMITH, THE WEALTH OF NATIONS 309 (1776).

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This Article presents a number of tax provisions that were enacted to raise revenue or influence taxpayer behavior, and resulted in modifying and warping architecture in terms of unexpected architectural design changes. Not only did these architectural design permutations spread within the taxing jurisdiction, but also caused enduring changes to architecture that dispersed into other countries as well as changes to longstanding architectural design principles.

As mentioned earlier, architecture serves as a perfect visual illustration of these distortions, making these unintended effects and their influence accessible even to those not well-versed in tax law. Often, taxes that are enacted to encourage or discourage a certain behavior result in distorting taxpayer behavior in unanticipated ways. Legislatures enacting tax laws to induce actions or even raise revenue will often inadvertently distort taxpayer behavior as taxpayers seek to minimize their tax burden.⁷ Tax avoidance, which involves taxpayers seeking to lower or avoid taxes, is legal, as opposed to tax evasion which is illegal.⁸ A popular statement of their distinction is as follows:

“The man who deliberately adopts one of several possible courses, because that one will save him the most tax, must be distinguished from the man who does the same but for entirely different reasons. A tax avoidance transaction is one which would not be adopted if the tax-saving element had not been present.”⁹

A legislature enacting taxes must balance the burden imposed by the tax against possible actions taxpayers might take to avoid the increased tax burden, the taxpayer’s cost and inconvenience of avoiding the tax, and finally the possibility of any unintended distortion to taxpayer behaviors.¹⁰ Taxpayers’ attempts to avoid taxes result in not just behavioral (or, in the context of this Article, architectural) distortions, but also in outright brutality historically. In the seventeenth century, French objectors killed a teenage clerk who merely kept the books for a collector of taxes, nailing his flesh to doors to caution revenue officials of the dangers that awaited them.¹¹

One of the reasons tax authorities deliberately taxed certain items was an attempt to reach a specific demographic. Legislatures often advocated for taxes that would reach the wealthy and impose a lesser burden on the poor. To achieve this, rather than just tax the wealth, legislatures

⁷ See G.S.A. Wheatcroft, *The Attitude of the Legislature and the Courts to Tax Avoidance*, 18 MOD. L. REV. 209, 209–210 (1955) (citing examples such as alcohol taxes to reduce drunkenness, additional profits tax to avoid dividends, and in particular the strategy of purchasing insolvent companies to absorb future profits and reflecting that the bidding prices increased while the owner of the company emphasizes how significantly insolvent the company is to raise prices).

⁸ See *id.* (the author defines tax avoidance as “a transaction that (a) avoids tax, (b) is entered into for the purpose of avoiding tax, (c) is carried out lawfully, and (d) is not a transaction with the legislature has intended to encourage”).

⁹ *Id.*

¹⁰ See *id.* at 210.

¹¹ See CHARLES ADAMS, *FOR GOOD AND EVIL: THE IMPACT OF TAXES ON THE COURSE OF CIVILIZATION* 229 (2001) (describing how the French would not accept taxes and would routinely respond with murder, mayhem and violence).

would tax items they thought served as a proxy for wealth – items reflecting “opulent living.”¹² For example, tax authorities have targeted wallpaper, windows, pocket watches, bricks and more.¹³ As this Article will demonstrate, with respect to the architectural aspects, each resulted in paradoxical results, changing the face of architecture rather than serving as a tax on the items.

As this Article will demonstrate, the unintended effects that taxes can have on architecture become part of the architectural landscape as the underlying tax avoidance strategies are identified and utilized by others, and as the designs gain independent popularity.¹⁴ The legislative intent may have been well-meaning; however, targeting specific architectural aspects for taxation often results in both arbitrary taxation and unintended consequences such as altered architecture style. Using arbitrary measures such as rooflines or materials as a proxy for wealth may not effectively target wealth. Further, “Architecture-based” taxation also interferes often with a taxpayer’s ability to pay. These issues violate the first two canons of Adam Smith: first, taxing individuals on their ability to pay; and second, ensuring the taxes are not arbitrary.¹⁵

This Article proceeds in ten parts: Part I is an introduction of architectural changes due to tax policy; Part II explains the basic framework of taxing real estate and architecture; Part III discusses the Hearth/Chimney Tax; Part IV discusses the Window Tax; Part V discusses various tax laws that have led to distinctive architecture styles; Part VI focuses on tax laws that have created a particular architecture style: drastically narrow houses; Part VII focuses on tax laws in a particular period, colonial America, and their influence on architecture styles of the period; Part VIII gives a brief introduction to the distinction between land and building taxes and examples of architecture styles that result from tax policies targeting buildings instead of land; Part IX describes unintended architectural changes created by tax policy that intends to subsidize environmental conservation and protection efforts; and Part X concludes that architecture provides a meaningful and tangible illustration of the way tax laws can distort taxpayer behavior in unintended and significant ways.

II. JUSTIFICATIONS FOR TAXING REAL ESTATE AND ARCHITECTURE

In addition to influencing taxpayer behaviors, property tax is one of several tools to raise revenue for local governments.¹⁶ Because real property is clearly visible and can often be assessed from the street, a property tax is often seen as a less intrusive, more objective and transparent tax. Adam Smith noted that “[i]t is easy to lay a tax upon land, because it is evident what quantity everyone possesses, but it is very difficult to lay a tax upon stock or money without very arbitrary proceedings [and] a hardship upon a man in trade to oblige him to show his books.”¹⁷ Land taxes were in use long before income taxes, principally because taxpayers objected to the intrusion in their privacy associated with income taxes. As mentioned earlier, a significant advantage of land

¹² See ISAAC WILLIAM MARTIN, *THE PERMANENT TAX REVOLT: HOW THE PROPERTY TAX TRANSFORMED AMERICAN POLITICS* 151 (2008).

¹³ See *id.*

¹⁴ See Wheatcroft, *supra* note 7, at 213.

¹⁵ See 2 ADAM SMITH, *THE WEALTH OF NATIONS* 307–308 (1776).

¹⁶ See Joan M. Youngman & Jane H. Malme, *An International Survey of Taxes on Land and Buildings*, LINCOLN LAND INSTITUTE AND OECD 2 (1994).

¹⁷ See SMITH, *supra* note 5, at 442.

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taxes was that accessors could avoid interacting with the owners of the property, for example, by determining the value of such land as a base for tax from observations made while standing on the sidewalk. This was particularly helpful at times of great hostility toward taxes and tax accessors.

Because of its frequent use, property taxes influenced how taxpayers held their properties at least as far back to as the Roman times. During the time of Diocletian's new order, Emperor Diocletian enacted a tax based on the number of acres a farmer owned in Syria.¹⁸ In response, "[f]armers started to abandon their farms if they did not like their classification. The new system was endangered by the fundamental right of all Roman citizens to move about the Empire as they pleased."¹⁹ Farmers were also reluctant to stay because their tax burden was unpredictable as it was determined year to year every September.²⁰

In addition to unintended consequences, taxes on buildings and land were also used intentionally to influence taxpayer behaviors by creating incentives or disincentives for desired outcomes.²¹ Modern examples, which are discussed in greater details later, include tax credits for environmentally friendly buildings and for preservation of historic sites.²²

A criticism of real property taxes is that a taxpayer's wealth in land or buildings does not necessarily coincide with his or her ability to pay since it does not reflect the taxpayer's asset liquidity.²³ Consequently, a real property tax could force sales or foreclosures of the property. Historically, the property tax was also attacked for lack of horizontal equity, i.e., taxing wealth in the form of real property but omit wealth such as cash, stock, and bonds.²⁴

Another criticism is that assessors could be motivated to value their assessments in a way to serve their own advantages.²⁵ The valuation standards employed by assessors could be highly subjective, leading to unequal and inconsistent applications. These inconsistencies were particularly concerning when motivated by political favors or outright bribes.²⁶ In addition, the difference between the respective abilities of personal and real property owners to circumvent taxes imposed on their properties led to further inequity. For example, colonial farmers would drive their livestock into the forest when assessors came to conceal their wealth and avoid taxes.²⁷

¹⁸ See ADAMS, *supra* note 11, at 114–115.

¹⁹ *Id.* (traditionally, Roman farmers enjoyed the freedom of movement within the empire, but the land tax introduced by Emperor Diocletian forced them to remain in one place, altering the long-established precedent).

²⁰ See *id.* at 116–17 (delinquency was also not an option—the farmer faced the possibility that soldiers would plunder her land and torture or sell her children into slavery if she did not pay the tax).

²¹ See Comment, *Municipal Real Estate Taxation as an Incentive for Community Planning*, 57 YALE L.J. 219, 220 (1947) (describing how property taxes can be “an instrument to facilitate the realization of such desirable objectives such as the minimization of land speculation, the abolition of slums, the encouragement of new residential and business construction”)

²² See Part IX, *infra*.

²³ See Youngman & Halman, *supra* note 16, at 2; see also MARTIN, *supra* note 12, at 6667.

²⁴ See Youngman & Halman, *supra* note 16, at 3.

²⁵ See MARTIN, *supra* note 16, at 6667.

²⁶ See *id.*

²⁷ See ROBERT A. BECKER, *REVOLUTION, REFORM AND THE POLITICS OF AMERICAN TAXATION, 1763–1783* 8 (1980).

The real property, however, was much more difficult to hide.²⁸ As Professor Isaac William Martin notes, the “system was unfair to property owners who lived in the wrong neighborhood.”²⁹

III. THE HEARTH/CHIMNEY TAX

A. Byzantine Empire

The first known hearth (i.e., fireplace) tax was imposed by the Byzantine empire in the seventh century, although few details are known about the tax.³⁰ It was called the *kapikon* (translated into the “smoke tax”).³¹ It was imposed on each household, as a proxy for families, based on the number of fireplaces in a municipality.³² Orphanages, hospitals, as well as monastic and religious institutions were exempt from the tax, but there was no exemption for the poor or indigent.³³ As a result of the exemption for monasteries, families created monasteries to avoid paying the tax and the amount of monasteries grew dramatically, as many private individuals began monasteries to deliberately avoid paying the tax.³⁴ The Byzantine hearth tax replaced the Roman head tax.³⁵ It appears there was also a land tax at the time, but separate inspectors were used for the land tax and for the hearth tax.³⁶

B. French Hearth Tax

The French also had a hearth tax (also referred to as the *fouage*). It played a more significant role in France although there were similar versions of the tax in nearby countries like England.³⁷ Historically, the French population had significantly less active role and participation in the enactment and imposition of taxes than the citizens in England.³⁸ The French hearth tax was first imposed in 1146.³⁹ It was used for the first time successfully as a source of revenue by Phillip the Fair in 1294.⁴⁰ While the tax did not generate enough revenue to become part of the general tax structure until much later in history, it was the most direct tax France had until the late 14th century. Although the tax was briefly abolished by Charles V on his deathbed in 1380, it continued to play a role at various times during French history.⁴¹

²⁸ *See id.*

²⁹ *See* MARTIN, *supra* note 12.

³⁰ *See* JOHN F. HALDON, *BYZANTIUM IN THE SEVENTH CENTURY: THE TRANSFORMATION OF A CULTURE* 149 (1997); *see also* Charles M. Brand, *Two Byzantine Treatises on Taxation*, 25 *TRADITIO* 35, 41 (1969); W. Ashburner, *A Byzantine Treatise on Taxation*, 35 *J. HELLENIC STUD.* 121–123 (1915).

³¹ *See* HALDON, *supra* note 30.

³² *See id.*

³³ *See id.* at 112–113.

³⁴ *See id.* at 293.

³⁵ *See* Brand, *supra* note 30, at 41.

³⁶ *See* Ashburner, *supra* note 30, at 76–78, 121–123.

³⁷ *See* JAMES COLLINS, *THE STATE IN EARLY MODERN FRANCE* 16, 111 (1995); *see also* 14(4) YORAM BARZEL & EDGAR KISER, *TAXATION AND VOTING RIGHTS IN MEDIEVAL ENGLAND AND FRANCE, RATIONALITY AND SOCIETY* COPYRIGHT 8, 494 (2002).

³⁸ *See* BARZEL *supra* note 37, at 494.

³⁹ *See id.*

⁴⁰ *See id.*

⁴¹ *See* COLLINS, *supra* note 37, at 111.

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After Napoleon rose to power, the popular view among French citizens was that many taxes should be overthrown.⁴² To raise revenue, Napoleon chose to impose the hearth tax rather than a more intrusive poll tax or income tax.⁴³ As Napoleon conquered countries, such as Italy and Netherlands, he removed local tax exemptions, including those for the poor, and imposed significant taxes, including a hearth tax, in order to fund his military operations.⁴⁴ Commentators state that he essentially destroyed the Kingdom of Westphalia with a heavy tax burden.⁴⁵ The hearth tax caused significant resentment among the French population during the time of Napoleon.⁴⁶ But as French taxpayers gained more and more voting rights on the enactment of new taxes,⁴⁷ the hearth tax was confirmed several times by national voting assemblies.⁴⁸

C. The Netherlands

In Denmark, the government decreed that all hearths had to have chimneys.⁴⁹ An important purpose of this rule is to allow tax collectors to count the number of hearths without entering the home and instead by counting the number of chimneys.⁵⁰ To avoid this new chimney law, many Denmark farmers would gather all of the hearths together in one black kitchen.⁵¹ This would allow them to use a single chimney for all of the hearths, frustrating the tax collectors' attempts to count the correct number of hearths.⁵²

D. British Hearth Tax

The Hearth Tax was introduced in England from 1662 to 1666 and then again from 1669 to 1674 after Charles II was put on the throne.⁵³ The hearth tax was intended to be a tax on wealth, using the number of fireplaces and chimneys that a household has as a proxy for the household's

⁴² See 3 STEPHEN DOWELL, *A HISTORY OF TAXATION AND TAXES IN ENGLAND FROM THE EARLIEST OF TIMES TO THE YEAR 1885* 153 (1888).

⁴³ See ADAMS, *supra* note 11, at 351.

⁴⁴ See MOSHEH TSUKERMAN, *ETHNIZITÄT, MODERNE UND ENTTRADITIONALISIERUNG* 400 (2002) (explaining that Napoleon essentially destroyed the kingdom of Westphalia by imposing a tax of 26 million francs to be paid over 18 months), <https://books.google.com/books?id=sHMEIRM84ScC&pg=PA400&dq=napoleon+french+hearth+tax&hl=en&sa=X&ved=0ahUKewiU1s25YThAhWP11kKHXYdCC84ChDoAQgvMAE#v=onepage&q=hearth&f=false> [<https://perma.cc/D5G9-9PXA>]; see also HOLGER NEHRING & FLRIAN SCHUI, *GLOBAL DEBATES ABOUT TAXATION* 62-63 (2007).

⁴⁵ See NEHRING & SCHUI, *supra* note 44, at 62-63 (2007).

⁴⁶ See PHILIP G. DWYER, *NAPOLEON AND EUROPE* 173 (2014).

⁴⁷ See BRAZEL, *supra* note 37, at 494.

⁴⁸ See *id.* at 495.

⁴⁹ See ALLEN NOBLE, *TRADITIONAL BUILDINGS: A GLOBAL SURVEY OF STRUCTURAL FORMS AND CULTURAL FUNCTIONS* 31 (2009).

⁵⁰ See *id.*

⁵¹ See *id.*

⁵² See *id.*

⁵³ See *Hearth Money Act* (1663), 15 Car. 2, c. 13, § 1. A subsequent Act was passed, see *Hearth Money Act* (1664), 16 Car. 2, c. 3, §1, to enable official collection of the tax. It was later abolished, in *Hearth Money Act* (1688), 1 W. & M., c. 10. See also DOWELL, *supra* note 42, at 258.

wealth.⁵⁴ Each fireplace was taxed at two shillings.⁵⁵ Unlike other property taxes in England, the tax on hearths required tax assessors to actually enter the home to determine the number of fireplaces since a visual inspection of chimneys from the outside would not accurately reflect the number of working fireplaces in a dwelling.⁵⁶ The tax assessors who examined the homes were called “chimney men.”⁵⁷

The hearth tax was very unpopular and many taxpayers took measures to avoid paying the tax. One common method to avoid the tax was boarding up or blocking their chimneys which prevented the chimneys from being counted as working hearths.⁵⁸ Occasionally, devastating consequences resulted from blocking up a chimney. For example, in Churchill Oxfordshire, on July 3, 1684, a fire was caused by a baker who blocked her chimney to avoid the hearth tax.⁵⁹ She knocked a hole through the wall from her oven to her neighbor’s chimney to use her neighbor’s chimney.⁶⁰ The fire destroyed 20 houses and other buildings, and killed four people.⁶¹ The village was rebuilt higher up the hill, with stone houses instead of the old timber-framed and thatched cottages.⁶²

The hearth tax was abolished after the 1688 Glorious Revolution when a report referred to the tax as “a badge of slavery upon whole people, exposing every man’s house to be entered and searched at the pleasure of persons unknown to him.”⁶³ On a lighter note, Rebecca Rogers, who died August 22, 1668, had her tombstone inscribed “A house she hath, its made of such good fashion, the tenant ne’er shall pay for reparation nor will her landlord ever raise her rent or turn her out of doors for non-payment from chimney money too this cell is free of such a house who would not tenant be.”⁶⁴

E. Ireland

The Irish also were subject to the hearth tax imposed by Great Britain after 1793.⁶⁵ The tax applied to households having only one hearth, which are typically poorer taxpayers. To make the tax more like a wealth-based tax, the rates applicable to households with multiple hearths were later raised above those applicable to single hearth household.⁶⁶ Eventually, in 1795, an exemption

⁵⁴ See INST.OF HISTORICAL RESEARCH, UNIVERSITY OF LONDON, LONDON AND MIDDLESEX HEARTH TAX (1666): AN ANALYSIS OF THE STATUS AND WEALTH OF NEIGHBORHOODS AND HOUSEHOLDS ON THE EVE OF THE GREAT FIRE, <https://www.history.ac.uk/projects/research/hearth-tax>.

⁵⁵ See DOWELL, *supra* note 42, at 153; *see also* ADAMS, *supra* note 11, at 351.

⁵⁶ See ADAMS, *supra* note 11, at 258.

⁵⁷ See *id.* (“There is not one old dame in ten, and search the nation through. But, if you talk of chimney-men will spare them a curse or two.”); *see also* DOWELL, *supra* note 42, at 39.

⁵⁸ See DOWELL, *supra* note 42, at 169; *see also* PAUL SULLIVAN, THE LITTLE BOOK OF OXFORDSHIRE 38 (2012).

⁵⁹ See SULLIVAN, *supra* note 58, at 38.

⁶⁰ See *id.*

⁶¹ See *id.*

⁶² See *id.*

⁶³ DOWELL, *supra* note 42, at 40.

⁶⁴ MIKE HANAGAN & PAT COX, LEGENDS OF KENT 72 (2012).

⁶⁵ See D. Dickson, *Taxation and Disaffection in Late Eighteenth-Century Ireland*, in SAMUEL CLARK & JAMES DONNELLY, IRISH PEASANTS: VIOLENCE AND POLITICAL UNREST, 1780-1914, 45 (1983).

⁶⁶ See *id.* at 45.

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for all one hearth households was enacted to lessen the burden on the poor.⁶⁷ It was observed that some homes in Ireland were built entirely without chimneys to avoid the tax⁶⁸

Due to the unpopular nature of the hearth tax, many immigrants to the United States, especially those from France and Germany, strongly opposed any hearth tax.⁶⁹ The distrust for hearth tax also led to a distrust for general property taxes later in the United States.⁷⁰

F. New Orleans Chimney Tax

New Orleans has had an intriguing discourse over property and architectural taxes. Some have speculated that at one time, there was a door tax, incentivizing citizens to create floor to ceiling windows that would not be counted as doors.⁷¹ Others have speculated that the “shotgun house” which became a standard in New Orleans architecture is a tax-avoidance strategy against a tax on the frontage of buildings.⁷² The Spanish Chimney Tax of 1794 imposed a version of the historical hearth tax to raise fund for street lights.⁷³ The tax was so unpopular that it only lasted for six months and was replaced with a tax on bread.⁷⁴ In addition to raising revenue, the chimney tax was also an attempt to reduce fire risks (by taxing chimneys as a proxy to fireplaces which tend to impose such risks), in response to the great fires in 1788 and 1794, which destroyed 856 buildings out of approximately 1100.⁷⁵ As a typical tax avoidance strategy against such tax, households in the city of New Orleans started to share chimneys without necessarily reducing the number of fireplaces.⁷⁶

IV. THE WINDOW TAX

A. The Window Tax of Great Britain

A tax on windows (the “windows tax”) was imposed in England on inhabited dwellings based on the number of windows in the house.⁷⁷ It was initially introduced in England

⁶⁷ See *id.* at 46.

⁶⁸ See *A Business Man on Taxes*, in TAX FACTS - PUBLISHED IN THE INTERESTS OF SOUND ECONOMICS AND AMERICAN IDEALS 29, 31 (Dec. 1992 ed.) (noting taxes that deliberately targets an industry may cripple an industry).

⁶⁹ See ADAM, *supra* note 11 at 326 (German Citizens in particular despised hearth taxes that had been imposed in their former homeland and were unwilling to be subjected to them again); see also PAUL NEWMAN, FRIES’S REBELLION: THE ENDURING STRUGGLE FOR THE AMERICAN REVOLUTION 20, 20-21 (2004).

⁷⁰ See *Centre for Hearth Tax Research*, UNIVERSITY OF ROEHAMPTON, <https://gams.uni-graz.at/context:htx>; see also NEWMAN, *supra* note 69, at 20.

⁷¹ See Robert Cangelosi, *Why Do Older New Orleans Houses Have So Few Closets*, 46:2 PRESERVATION IN PRINT, 36 (Mar. 2019).

⁷² See Robert Ross & Deanne Ross, *Walking to New Orleans: Ethics and the Concept of Participatory Design*, in POST-DISASTER RECONSTRUCTION 408 (2008); RICHARD CAMPANELLA, CITYSCAPES OF NEW ORLEANS 90 (2017).

⁷³ See LAWRENCE POWELL, THE NEW ORLEANS OF GEORGE WASHINGTON CABLE: THE 1887 CENSUS OFFICE REPORT 58 (2008).

⁷⁴ See *id.*

⁷⁵ See *id.*

⁷⁶ See *id.*

⁷⁷ See Window Duties Act (1747), 21 Geo. 2, c.10 [hereinafter The British Window Tax Act]; see also ADAMS, *supra* note 11, at 259; DOWELL, *supra* note 42, at 154; Wallace E. Oates & Robert M. Schwab, *The Window Tax: A Transparent Case of Excess Burden*, in LAND LINES, LINCOLN INSTITUTE OF LAND POLICY 11 (Apr. 2014).

and Wales in 1696 and was eventually repealed in 1851.⁷⁸ In addition to taxing windows on the dwelling itself, the window tax also taxed windows on certain side buildings that served living purposes, like laundry houses.⁷⁹ There were exemptions for those in poverty, certain outbuildings including dairies, cheese rooms and millhouses provided that they were labeled as such.⁸⁰ Many of these labels still remain in some rooms carved on the lintel.⁸¹ There were many unintended architectural changes as a result of the tax on windows, including bricked over windows, fewer windows, and false painted windows. The goal of the window tax was to tax the wealthy, under the assumption that the wealthier someone is, the more windows in his or her house.⁸² The window tax also led to profound architectural changes evidenced in contemporary designs and extended beyond Great Britain to influence other countries including the United States.⁸³

Prior to the imposition of the window tax, wealthier citizens in England often had many windows to display and flaunt their prosperity.⁸⁴ The most prestigious households in England had entire porches or alcoves surrounded by windows, creating a glass wall.⁸⁵ The initial window tax in Great Britain imposed a flat-rate house tax of 2 shillings per window, with an additional tax for homes with more than ten windows and up to 20 windows of an extra 4 shillings.⁸⁶

A significant benefit to the window tax was that it was relatively easy to assess and collect because windows are clearly visible from the street.⁸⁷ Assessment was generally unobtrusive since there was no need to interact with taxpayers or go inside homes.⁸⁸

Adam Smith suggested that a window tax was better than a hearth tax because “windows are visible markers of wealth and would thus not require the tax collector to enter the taxpayer’s home.”⁸⁹ It was suggested that the tax could discourage “wealth imposters” (social climbers) from purchasing excess windows to create the false impression that they were wealthy by taxing such behaviors.⁹⁰ The window tax could serve to “restore the honours and distinctions of this sort, due to our nobility, gentry, merchants and others of real ability”⁹¹ “The laws would, in some

⁷⁸ The Bank of England Act (1696), 8 & 9 Will 3, c. 20.

⁷⁹ See M. HUMBERSTON, *THE ABSURDITY AND INJUSTICE OF THE WINDOW TAX, CONSIDERED WITH ESPECIAL REFERENCE TO THE NEW SURVEY* 8 (1841).

⁸⁰ See DOWELL, *supra* note 42, at 173-174.

⁸¹ See *id.*; see also Asshof Likhovski, *Chasing Ghosts: On Writing Cultural Histories of Tax Law*, 1 UC IRVINE L. REV. 843, 878 (2011).

⁸² See M. HUMBERSTON, *supra* note 79, at 6. see also Likhovski, *supra* note 81, at 875; The British Window Tax Act, *supra* note 77; see also ADAMS, *supra* note 11, at 259.

⁸³ See Andrew E. Glantz, *A Tax on Light and Air: Impact on the Window Duty on Tax Administration and Architecture, 1696-1851*, 15(2) PENN HIST. REV. 18, 28 (2008).

⁸⁴ See STEPHEN ESKILSON, *THE AGE OF GLASS: A CULTURAL HISTORY OF GLASS IN MODERN AND CONTEMPORARY ARCHITECTURE* 4 (2018); see also CHANTAL STEBBINGS, *THE VICTORIAN TAXPAYER AND THE LAW, A STUDY IN CONSTITUTIONAL CONFLICT* 5, 29 (2012) (noting that “wealth was perceived as an indication of moral worth”).

⁸⁵ See ESKILSON, *supra* note 84, at 4; see also Oates, *supra* note 77, at 13-14.

⁸⁶ The British Window Tax Act, *supra* note 77; see also Oates, *supra* note 77, at 13.

⁸⁷ See DOWELL, *supra* note 42, at 153-154; see also ADAMS, *supra* note 11, at 259.

⁸⁸ See NEWMAN, *supra* note 69, at 20-21; The British Window Tax Act, *supra* note 77; ESKILSON, *supra* note 84, at 3.

⁸⁹ Likhovski, *supra* note 81, at 879; see also SMITH, *supra* note 5, at 239-240, 845-46.

⁹⁰ *Id.* at 885-895.

⁹¹ *Id.* at 886.

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measure, confine people to the practice of frugality, and take it out of their power to spend their substance in vainly mimicking their superiors.”⁹² The irony, however, is that even the wealthy began to brick over their windows to avoid the tax, thus making the (false) appearance of wealth even easier.⁹³

One aspect of the window tax that made it significantly more palatable to the British citizens was that, unlike an income tax, the window tax was imposed on “visible objects.”⁹⁴ The assessment of a window tax, like that of a general property tax, typically would not involve an invasive inquisition into the taxpayer’s financial affairs or privacy.⁹⁵

In addition, the window tax was viewed as an objective tax, not subject to favoritism or judgment calls.⁹⁶ The number of windows each building has is not affected by the subjective judgment of the tax collector.⁹⁷ Further, the tax on windows was in some respects viewed as a voluntary tax because a taxpayer could choose to avoid the tax by eschewing windows.⁹⁸ However, it was not easy or in many cases possible for the poor to avoid the tax by moving to homes with less windows, and therefore the tax could unfairly burden less wealthy taxpayers.⁹⁹

Despite the possible advantages of the window tax as compared to an income tax, the tax was still unpopular. It became known as a tax on “light and air.”¹⁰⁰ Since the number of windows in a dwelling was not an accurate measurement of the wealth of its occupants, for example, old, low-value houses inhabited by the poor but nonetheless having many windows, using windows as a proxy for wealth could capture taxpayers who were not actually wealthy, for example, those who inhabited old houses with many windows or those who installed more windows because they liked natural light and air.¹⁰¹ One commentator noted that, at the time of its enactment, the window tax “can no more be depended on [as a proxy for wealth] than the buttons of a coat can be said to denote its value.”¹⁰² As a previous example indicates, large houses with many windows may be owned in earlier times by the wealthy, but now often served as homes for the poor as the wealthy moved on to newer and grander houses.¹⁰³ Some also argued that the window tax was a regressive tax, imposing a greater burden on the middle and lower classes.¹⁰⁴

⁹² *See id.*

⁹³ *See id.* at 878.

⁹⁴ *See id.*

⁹⁵ *Id.*

⁹⁶ *See* MARTIN, *supra* note 12, at 6-7 (arguing that fractional property taxes are subjective and cause unrest in many states within the United States because of the perception that they are not impartial and involve favoritism).

⁹⁷ *See id.*

⁹⁸ *See id.*; *see also* STEBBINGS, *supra* note 84, at 12 (noting that when England enacted an income tax it reflected “ideological adherence to voluntarism.”); *see also* ADAMS, *supra* note 11, at 397.

⁹⁹ *See* HUMBERSTON, *supra* note 79, at 14; *see also* Chantal Stebbings, *The Impact of Tax on the Landscape: Social Expectations and the Built Environment in Nineteenth-Century England*, in CHALLENGES TO AUTHORITY AND THE RECOGNITION OF RIGHTS: FROM MAGNA CARTA TO MODERNITY 183 (Catherine MacMillan & Charlotte Smith eds., 2018).

¹⁰⁰ *See* HUMBERSTON, *supra* note 79, at 23.

¹⁰¹ *See id.* at 8.

¹⁰² *Id.*

¹⁰³ *See id.* at 9; *see also* Oates, *supra* note 77, at 12-13.

¹⁰⁴ *See* HUMBERSTON, *supra* note 79, at 23.

Unsurprisingly, after the window tax was imposed, entire blocks of houses were built without windows.¹⁰⁵ Such tax-avoidance strategy reduced revenue collected by the government and dramatically affected the window industry.¹⁰⁶ In 1718 it was noted that there was a decline in revenue raised by the window tax because English citizens were blocking their windows to avoid the tax.¹⁰⁷ One manufacturer stated that the window tax was far more injurious to his business than the glass excise tax because of the significant reduction in the demand for windows from consumers.¹⁰⁸

Furthermore, taxpayers would build separate structures on the property in order to exempt those portions used for commercial purposes (thus not counted as part of the dwelling) from the window tax.¹⁰⁹ The government response to this new trend was to extend the window tax to all buildings, commercial or not, thus extending its impact to industries in addition to the window industry.¹¹⁰ As evidence of the impact of the tax, glass production in England remained stagnant from 1810 to 1850 despite significant population growth and many more houses being built.¹¹¹ Since glass manufacturers played an important role in Great Britain's market economy, some called the window tax a "grievous tax on the industry."¹¹²

Another response of the government was to expand the definition of "window" for window tax purposes, such as treating any hole in a wall as a "window" subject to the tax.¹¹³ One critic noted that under this tax even "the air holes and wire gratings in our cellars and larders" might be taxed as windows.¹¹⁴ The reduced number of windows on buildings were also potentially harmful to the health of its occupants.¹¹⁵

The window tax also resulted in several distinct architectural changes which spread throughout England and beyond as the changes became fashionable.¹¹⁶ Bricked over windows and fake windows became so stylish that new construction included them for stylistic purposes.¹¹⁷ Such "ghost windows" or "blind windows" can still be found in buildings today.¹¹⁸ The architectural design of new buildings was further modified because bay windows often became prohibitively expensive, leading to flat fronted buildings; making the architecture of many areas

¹⁰⁵ See STEBBINGS, *supra* note 84, at 183.

¹⁰⁶ See *id.*; see also Oates, *supra* note 77, at 11-12.

¹⁰⁷ See DOWELL, *supra* note 42, at 171; see also ESKILSON, *supra* note 84, at 4.

¹⁰⁸ T.C BARKER & J.R. HARRIS, A MERSEYSIDE TOWN IN THE INDUSTRIAL REVOLUTION: ST HELENS 1750-1900 215 (2012).

¹⁰⁹ See Glantz, *supra* note 83, at 30.

¹¹⁰ See *id.*

¹¹¹ *Id.*

¹¹² ROBERT MONTGOMERY MARTIN, TAXATION OF THE BRITISH EMPIRE 68, 91 (1833); see also ESKILSON, *supra* note 84, at 4 (noting that combined with the glass excise tax, taxes on glass had essentially more than doubled); 182 HANSARD'S: THE PARLIAMENTARY DEBATES FROM YEAR 1803 TO THE PRESENT TIME 170 (1851) (including a Parliamentary debate where a member was unwilling to vote for the tax because of its burdens on many industries).

¹¹³ See DOWELL, *supra* note 42, at 176.

¹¹⁴ See M. HUMBERSTON, *supra* note 79, at 10 (noting that a lack of windows leads to health risks such as typhus).

¹¹⁵ *Id.*

¹¹⁶ See Glantz, *supra* note 83, at 28.

¹¹⁷ See Stebbings, *supra* note 99, at 191; see also Glantz, *supra* note 83, at 31.

¹¹⁸ See Glantz, *supra* note 83, at 28.

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lacking character.¹¹⁹ Architects struggled to a great extent to design palatable buildings with the window size and number restrictions imposed by the British government.¹²⁰

Many observers objected to the perceived damage that the window tax was causing to the architectural landscape of Great Britain, claiming that “the visual impact of the legislation . . . and that the lack of engagement by the architectural associations was striking.”¹²¹

The window tax was incorporated into a larger tax bill in 1798 under the Triple Assessment, which imposes taxes on windows, servants, carriages, lights, clocks, watches and luxury goods.¹²² Unsurprisingly, the Triple Assessment tax was very unpopular and failed to raise the revenue required to fund the war with France, which eventually led to Great Britain enacting its first income tax.¹²³ Coincidence or not, the all glass Crystal Palace opened in 1851, the same year that the window tax was repealed.¹²⁴

Today, bricked up windows can still be seen frequently in Great Britain and are often used in countries including the United States to convey a historical look on new buildings.¹²⁵

B. The British Window Tax and Separate Buildings

The British window tax altered architecture further than less windows being used in architectural design; it also resulted in the use of separate buildings on a homestead, for example, as work facilities, in addition to the primary dwelling. Since the tax was initially imposed only on primary dwellings, those separate buildings not used as primary dwelling were not subject to tax.¹²⁶ This architectural innovation successfully reduced the taxpayers’ tax burden on the work facilities they separated from the dwelling portion of the house.¹²⁷

In response, the British Parliament revised the window tax in 1747 to specifically cover windows on buildings separate from the primary dwelling, including any “[k]itchen, [s]cullery, [b]uttery, [p]antry, [l]arder, [w]ash-house, [l]aundry, [b]ake house, [b]rewhouse, and [l]odging-[r]oom, whether contiguous to, or disjoined from the [d]welling [h]ouse.”¹²⁸

¹¹⁹ See Stebbings, *supra* note 99, at 193.

¹²⁰ *Id.*

¹²¹ *Id.* at 189.

¹²² An Act for Granting to His Majesty an Aid and Contribution for the Prosecution of the War (1798), 38 Geo. 3, c. 16, §§ 1, 10 [hereinafter the Triple Assessment]; see also DOWELL, *supra* note 42, at 87; STEBBINGS, *supra* note 84, at 5, 25; Likhovski, *supra* note 81, at 879.

¹²³ The Triple Assessment, *supra* note 122; see also Likhovski, *supra* note 81, at 875; ADAMS, *supra* note 11, at 351.

¹²⁴ See CHARLES MACFARLANE, THE COMPREHENSIVE HISTORY OF ENGLAND: CIVIL AND MILITARY, RELIGIOUS, INTELLECTUAL, AND SOCIAL, FROM THE EARLIEST PERIOD TO THE SUPPRESSION OF THE SEPOY REVOLT 653 (1861).

¹²⁵ See NOBLE, *supra* note 49, at 31, 51; see also Andrew Burman, *Blurring the Lines with Blind Windows, in GREENWICH VILLAGE FOR HISTORIC PRESERVATION* (Dec. 23, 2011), <https://gvshp.org/blog/2011/12/23/blurring-the-lines-with-blind-windows/> [https://perma.cc/77YB-XNDL] (the 1845 Campbell House in Virginia, which has 4 fake windows despite no window tax existing in Virginia at the time, implies that they were added merely for stylistic purposes).

¹²⁶ The British Window Tax Act, *supra* note 77; see also DOWELL, *supra* note 42, at 177.

¹²⁷ See DOWELL, *supra* note 42, at 173.

¹²⁸ The Duty on Inhabited Houses, 1778, 18 Geo 3 c. 26 (Eng.); The British Window Tax Act, *supra* note 77; Houses and Windows Duties Amendment Act, 1748, 21 Geo. 2 c. 10 §26 (Eng.). See DOWELL, *supra* note 42, at 94

The use of separate buildings also served as a strategy to reduce taxes under the property tax enacted following the window tax.¹²⁹ The property tax was imposed on occupied houses but did not include warehouses, shops, unoccupied servants' quarters or other buildings used for trade or businesses.¹³⁰ The tax was imposed on any shops or warehouses if they were physically attached to the dwelling house.¹³¹ As a result, taxpayers moved work spaces into separate buildings in order to reduce tax.¹³²

C. Window Tax in the United States

There is no known evidence that a tax specifically on windows was ever enacted in the United States. However, similar taxes were imposed historically. The Revenue Act of 1767, one of the Townshend Acts, imposed taxes on glass, lead and paint.¹³³ As a result of the Act, imported glass became so expensive that using it for windows was a luxury that few colonists could afford.¹³⁴ More impactful than the prohibitive price was the boycott of the importation of the taxed items in rebellion against the English imposition of taxes.¹³⁵ For example, the 1767 Boston Nonimportation Agreement was a covenant signed by hundreds of Boston merchants to boycott British imports in the wake of the Townshend Acts.¹³⁶

The lack of imported glass to make windows made winters even more brutal, and colonists sometimes used oiled paper or mica as replacement for glass windows.¹³⁷ Many colonists also started to experiment on ways to manufacture high-quality glass locally in order to be less dependent on imported glass. Glass-manufacturing factories began to spring up in Massachusetts, New York, Virginia and Pennsylvania.¹³⁸ In Pittsburgh, green window glass, known as flint glass, was produced and still used by older homes today.¹³⁹ The earliest glass windows produced in the colonies were small, often diamond shaped panes and leaded together in a pattern and then into the casement, known today as leaded windows.¹⁴⁰ Because the colonists struggled to create larger

(noting the law originally provided a 10% limit repairs for unoccupied houses and buildings while farm buildings were permitted 8%); Income and Property Taxes Act, 1806, 46 Geo. 3 c. 65 (Eng.) [hereinafter the 1806 Property Tax Act].

¹²⁹ See *id.* at 178.

¹³⁰ The 1806 Property Tax Act, *supra* note 128.

¹³¹ See DOWELL, *supra* note 42, at 180.

¹³² An Act for Tax Management, 1803, 43 Geo. 3, c. 50 (Eng.); see also DOWELL, *supra* note 42, at 182.

¹³³ See Revenue Act of 1767, 7 Geo. 3 c. 46. The Act was one of the five Townshend Acts that impose tax on the colonies. The second of the Townshend Acts led to the Boston Tea Party, while another led to the Boston Massacre. See Kevin Schultz, HIST 85 (2010) (discussing the Townshend Acts and other historical events leading to the Boston Massacre).

¹³⁴ See HAROLD DONALDSON EBERLEIN, THE ARCHITECTURE OF COLONIAL AMERICA 248 (1915).

¹³⁵ See Glantz, *supra* note 83, at 28; see also JOHN RIDPATH, THE CONSTITUTION AND WASHINGTON'S PRESIDENCY 312 (1912); George Upham, *Pre-Revolutionary Life and Thought in a Western New Hampshire Town*, in 54(5) THE GRANITE MONTHLY: A MAG. OF LIT., HIST. AND STATE PROGRESS 199, 200 (1922).

¹³⁶ See T.H. Breen, "Baubles of Britain": The American and Consumer Revolutions of the Eighteenth Century, in 119 PAST AND PRESENT 73, 77, 91 (1988); see also Arthur M. Schlesinger, *Politics, Propaganda, and the Philadelphia Press, 1767-1770*, in 60(4) THE PENN. MAG. OF HIST. AND BIOGRAPHY 309, 318 (1936).

¹³⁷ See ALLEN NOBLE, VERNACULAR BUILDINGS: A GLOBAL SURVEY 180 (2013); see also Upham, *supra* note 135, at 202.

¹³⁸ See RIDPATH, *supra* note 135, at 312.

¹³⁹ See *id.*

¹⁴⁰ EBERLEIN, *supra* note 134, at 249.

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single panes of glass, the dimensions for window openings in that period were also smaller. It was not until late eighteenth century that residents began to desire larger windows for their houses.¹⁴¹

D. The Window Tax in Ireland

The British imposed the Window Tax on Ireland in 1799 to help raise revenue for the Napoleonic wars.¹⁴² It was only imposed on households with seven or more windows.¹⁴³ The taxes were oppressive for the Irish and were repealed for small farmhouses in 1823.¹⁴⁴ Irish taxpayers used similar tax avoidance strategy or simply refused to pay.¹⁴⁵ Of particular concern was that Irish windows were used not only for indoor lighting, but also for venting, due to the lack of chimneys which can be further traced back to the chimney tax.¹⁴⁶ As a response to the window tax, members of the Irish Parliament and the Chancellor of Ireland argued that the taxes were too heavy and the Irish taxpayers could not afford them; they also expressed a concern over the potential harmful impact on health.¹⁴⁷ The tax was eventually repealed after the war because of objections of the Irish Parliament.¹⁴⁸

E. The Windows and Doors Tax of France

The France enacted a tax on both windows and doors in 1798 and repealed the tax in 1926.¹⁴⁹ One distinction between the British and the French window taxes was that the French tax rate was based on both the number and the size of the windows or doors, while the British tax rate was solely based on the number of windows.¹⁵⁰ Similar tax avoidance behaviors were observed in France as those observed in England. For example, a missionary in the French colony of Akaroa described how he would climb in and out of his “home” on his hands and knees in an attempt to minimize the size of windows and doors.¹⁵¹ Perhaps in response to the wide use of tax avoidance strategy, exemptions were enacted later for large tenement housing as well as for families with

¹⁴¹ *See id.*

¹⁴² *See* Dickson, *supra* note 65, at 58.

¹⁴³ *See id.*

¹⁴⁴ *See* STEPHEN DOWELL, *DIRECT TAXES AND STAMP DUTIES* 193 (1884).

¹⁴⁵ *See* 4 HENRY GRATTAN, *THE SPEECHES OF THE RIGHT HONORABLE HENRY GRATTAN: IN THE IRISH, AND IN THE IMPERIAL PARLIAMENT* 407, 409 (Longman, Hurst, Rees, Orme and Brown 1822).

¹⁴⁶ *See* Oates, *supra* note 77, at 11.

¹⁴⁷ *See* GRATTAN, *supra* note 145, at 407; *see also* Oates, *supra* note 77, at 11.

¹⁴⁸ *See* the Repeal of the Window and Hearth Tax in Ireland (1851), 3 Geo. 4 c. 82 & 54; *see also* Motion for the Repeal of the Window Tax in Ireland, 40 HCD cc. 126-148 (May 5, 1819); Oates, *supra* note 77, at 11; GRATTAN, *supra* note 145, at 407.

¹⁴⁹ *See* Chantal Stebbings, *Consent and Constitutionality in Nineteenth-Century Taxation*, in 3 *STUDIES IN THE HISTORY OF TAX LAW* 302 (John Tiley ed. 2009); *see also* Oates, *supra* note 77, at 11.

¹⁵⁰ Reports from His Majesty's Representatives Abroad Respecting Graduated Income Taxes in Foreign States: Presented to Both Houses of Parliament by Command of His Majesty August 1905, France No. 16, 143 ¶4 (Great Britain. Parliament Sessional papers, 1905. Cd. 2587.); *see also* NOBLE, *supra* note 49, at 31.

¹⁵¹ *See* T. LINDSAY BUCK, *THE FRENCH AT AKAROA: AN ADVENTURE IN COLONIZATION* 151-152 (2011).

more than 7 children.¹⁵² Further, to avoid disproportionate tax burden, the tax would be apportioned in a collective amount by region, arrondissement, commune, and so forth.¹⁵³

Similar to the British, the French resented any imposition of tax that intruded into their privacy and therefore preferred taxes that were assessed by an objective standard and without the need to collect sensitive personal information.¹⁵⁴ A tax on windows and doors arguably satisfies such a standard. However, similar to what was observed in England, French architects with an eye to taxation started to design buildings with smaller and fewer windows.¹⁵⁵ The tax is often cited to explain the very small gable windows French settlers in Quebec used in their homes.¹⁵⁶ Additionally, residences for the poor were designed to have as few openings as possible.¹⁵⁷ In extreme cases, entire houses in France were built without windows.¹⁵⁸

F. The Window and Door Tax in the Netherlands

The tax on windows and doors was introduced to Netherlands by Napoleon. According to Alexander Gogel, the Minister of Finance appointed for the Netherlands, architectural changes were almost immediately observed after the tax was first imposed in 1810.¹⁵⁹ Gogel himself sought a 25% reduction of the tax in an attempt to stop the changes he observed, stating the taxes were “irregular, indiscriminate taxes without guidelines [or] standards . . . and cause problems with determining everyone’s share in the level of taxation.”¹⁶⁰ According to him, windows were blocked up immediately to avoid the tax and palaces were built with few windows. Jean-Baptiste Say, a prominent contemporary French economist, recalled that as a teenager, he watched men hired by the owner of the building where he lived bricked over windows to avoid the tax.¹⁶¹ “Even today, in old Dutch cities and villages, houses with bricked up windows can still be found. Moreover, on the canals of Amsterdam there are city palaces from this period that have relatively few windows....”¹⁶²

V. TAX LAWS THAT AFFECT THE CONSTRUCTION OF BUILDINGS

A. The Mansard Roof of France

¹⁵² See EDWIN ROBERT ANDERSON SELIGMAN, *THE INCOME TAX: A STUDY OF THE HISTORY, THEORY, AND PRACTICE OF INCOME TAXATION AT HOME AND ABROAD* 276 (1914).

¹⁵³ See THOMAS PIKETTY, *TOP INCOMES IN FRANCE IN THE 20TH CENTURY: INEQUALITY AND REDISTRIBUTION 1901-1998* (2018); see also J. Bouvier, *Le système fiscal français. Étude critique d'un immobilisme, in DEUX SIÈCLES DE FISCALITÉ FRANÇAISE, XIXE–XXE SIÈCLE* 231-32 (J. Bouvier and J. Wolff eds., Paris and La Haye: Mouton 1973).

¹⁵⁴ See Stebbings, *supra* note 149, at 302; see also Onno Ydema & Henk Vording, *Dutch Tax Reforms in the Napoleonic Era, in 6 STUDIES IN THE HISTORY OF TAX LAW* 489 (John Tiley ed. 2013).

¹⁵⁵ See MICHAEL MOÏSSEY POSTAN & H. J. HABAKKUK, *THE CAMBRIDGE ECONOMIC HISTORY OF EUROPE: THE INDUSTRIAL ECONOMIES: THE DEVELOPMENT OF ECONOMIC AND SOCIAL POLICIES* 385 (1966).

¹⁵⁶ See NOBLE, *supra* note 49, at 81.

¹⁵⁷ See JAMES C. SCOTT, *SEEING LIKE A STATE: HOW CERTAIN SCHEMES TO IMPROVE THE HUMAN CONDITION HAVE FAILED* 47 (1999).

¹⁵⁸ See *A Business Man on Taxes, supra* note 68.

¹⁵⁹ See Ydema, *supra* note 154, at 513.

¹⁶⁰ *Id.*

¹⁶¹ See *id.* at 514.

¹⁶² See *id.* at 513.

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During the reign of Napoleon, French property taxes were partially based on the number of floors a property has.¹⁶³ The number of floors is counted based on all floors below the roofline (hence the name “roof tax”).¹⁶⁴ In 1783, the city of Paris implemented a 20-meter (roughly 65 feet) maximum height on architectural structures, with a crucial caveat: the height of a building is measured up to the cornice line, leaving the roof zone above (the attic) unaffected by the limit.¹⁶⁵

The Mansard roof was initially designed by Francois Mansart, a French architect, in the Seventeenth century, but did not become popular until Napoleon’s roof tax was enacted.¹⁶⁶ The Mansard roof is a flat roof, with hip sides that slope upwards on an angle. The top floor has enough roof space to be a living space.¹⁶⁷ Because under the roof tax law, the top floor (above the roofline) was an attic and not counted as part of the tax base, taxpayers sought to maximize the habitable space in a dwelling while minimizing the roof tax through the use of Mansard Roofs.¹⁶⁸ Eventually, the Mansard roof became recognized as a distinctive architectural style, independent of its previous use as a tax avoidance strategy.¹⁶⁹

The Mansard roof was called the “second empire” style in the United States and was especially popular from 1865 to 1895 for both private and public buildings.¹⁷⁰ Architects in the United States found the Mansard roof reflective of European style artistically and used it both to create an urban atmosphere and to maximize living space through the top floor.¹⁷¹ As people moved west in the United States, the Mansard roof design spread west, resulting in its presence throughout the country.¹⁷²

B. The Brick Tax

¹⁶³ See National Association of Tax Administrators, *Revenue Administration: 1987. Proceedings of the Fifty-Fifth Annual Conference of National Association of Tax Administrators*, 55, 152 (1987) [hereinafter *NTA 1987*]; see also Richard F. Dye & Richard W. England, *Assessing the Theory and Practice of Land Value Taxation*, in LINCOLN INSTITUTE OF LAND POLICY 6, 59 (2010); STEVE CARLSON, *YOUR LOW-TAX DREAM HOUSE: A NEW APPROACH TO SLASHING THE COST OF HOME OWNERSHIP* (1989).

¹⁶⁴ See Dye & England, *supra* note 163, at 59; see also RICHARD V. FRANCAVIGLIA, *MAIN STREET REVISITED: TIME, SPACE, AND IMAGE BUILDING IN SMALL-TOWN AMERICA* 28 (1996).

¹⁶⁵ See Karen E. Powell, *A Historical Perspective on Montanan Property Tax: 25 Years of Statewide Appraisal and Appeal Practice*, 70 MONT. L. REV. 21, 23 (2009); see also CARLSON, *supra* note 163; 12 OLD HOUSE JOURNAL no. 7, 152 (Aug. Sept. 1984).

¹⁶⁶ See Dye & England, *supra* note 163, at 59; see also FRANCAVIGLIA, *supra* note 164, at 28.

¹⁶⁷ See MARVIN TRACHTENBERG & ISABELLE HYMAN, *ARCHITECTURE FROM PRE-HISTORY TO POST-MODERNISM: THE WESTERN TRADITION* 361 (1986).

¹⁶⁸ See Powell, *supra* note 165, at 23; see also CARLSON, *supra* note 163; 12 OLD HOUSE JOURNAL no. 7, 152 (Aug. Sept. 1984).

¹⁶⁹ See FRANCAVIGLIA, *supra* note 164, at 28.

¹⁷⁰ See *NTA 1987*, *supra* note 163.

¹⁷¹ See *id.*

¹⁷² See FRANCAVIGLIA, *supra* note 164, at 28; see also 12 OLD HOUSE JOURNAL no. 7, 152 (Aug. Sept. 1984).

The British brick tax was a tax based on the number of bricks in a building, which was introduced by King George III in 1784 to help pay for the war against colonial America.¹⁷³ Bricks were initially taxed at 4 shillings per a thousand bricks, with almost no exemptions.¹⁷⁴

The brick tax had several unintended effects on popular architecture.¹⁷⁵ First, bricks were essentially eliminated as a building material in rural areas following the enactment of the brick tax.¹⁷⁶ Second, brick manufacturers increased the size of bricks manufactured, often doubling their size, so that less bricks were needed for the same building.¹⁷⁷ The British government responded by limiting a maximum size of a brick to that of a typical brick before the enactment of the brick tax.¹⁷⁸ Tax rate was increased if a brick exceeded the maximum size limit.¹⁷⁹ Also, alternative materials, such as wood or weatherboards, received more popularity in home construction, despite being considered as inferior to bricks.¹⁸⁰ Some builders turned to stone despite it being more expensive.¹⁸¹

Houses built with larger bricks or with alternative materials to bricks today are reminiscent of the brick tax that has long been repealed. One observer noted that “[t]he taxes on building materials and windows were perceived as materially damaging to architectural style and beauty.”¹⁸² Joseph Wilkes of Measham, Leicestershire became well-known for his “Jumb” or “Gob” bricks.¹⁸³ His bricks, almost double in size of a normal brick, has become an icon of his time.¹⁸⁴

The tax was devastating to the brick industry and was detrimental to industrial development. Numerous small brick producers went out of business, after being forced to sell their inventory to pay the tax.¹⁸⁵ The tax was abolished in 1850.¹⁸⁶ Despite repealing the tax, the British government did not take any corrective actions to remedy the damage caused by the tax.¹⁸⁷ The tax was intended to raise revenue and instead damaged an industry and distorted the architectural design and aesthetics of buildings.

¹⁷³ Duties on Bricks and Tiles (1784), 24 Geo. 3, c. 24, §1 (Eng.); see R.W. BRUNSKILL, *HOUSES AND COTTAGES OF BRITAIN: ORIGINS AND DEVELOPMENT OF TRADITIONAL BUILDINGS 184-186* (2000).

¹⁷⁴ See BARRY BRIDGWOOD & LINDSAY LENNIE, *HISTORY, PERFORMANCE AND CONSERVATION* 27 (2013).

¹⁷⁵ See *id.*

¹⁷⁶ See *id.* at 51.

¹⁷⁷ See DOWELL, *supra* note 42, at 390-391.

¹⁷⁸ The Excise Act (1805), 45 Geo. III c. 30 (Eng.).

¹⁷⁹ See Stebbings, *supra* note 99, at 181.

¹⁸⁰ See *id.* at 183, 191.

¹⁸¹ Brick Making Act (1725), 12 Geo. 1, c. 85 (Eng.); see also HORACE WALLPOLE, *2 MEMOIRS OF THE REIGN OF KING GEORGE II 178* (1846) (claiming he tried to convince the King to tax stone instead, but was rebuffed); see also Stebbings, *supra* note 99, at 181.

¹⁸² *Id.* at 189.

¹⁸³ See Robin Lucas, *The Tax on Bricks and Tiles, 1784-1850: Its Application to the Country at Large and, in Particular, to the County of Norfolk*, 13 CONSTR. HIST. 850, 850 n. 80 (1997); see also J.M. MCCOMISH, YORK ARCH. TRUST FOR EXCAVATION AND RESEARCH, *A GUIDE TO CERAMIC BUILDING MATERIALS: AN INSIGHT REPORT* 43 (2015).

¹⁸⁴ MCCOMISH, *supra* note 183, at 43.

¹⁸⁵ See Lucas, *supra* note 183, at 869-70.

¹⁸⁶ The Repeal of Brick Duties, 1850, 13 & 14 Vict c. 9 (Eng.).

¹⁸⁷ See Caplin, *supra* note 3, at 1; see also Stebbings, *supra* note 99, at 182.

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C. The British Wallpaper Tax¹⁸⁸

In the early 1700's, wallpaper became more popular in England as its advantages over tapestries became clear. Queen Anne enacted a tax on wallpaper in Great Britain in 1712 as a tax on luxury items.¹⁸⁹ Wallpaper was taxed if it had patterns or was printed or painted. Until the mid-1800's, wallpaper in England was almost exclusively hand painted, hand stenciled or embossed by talented workers.¹⁹⁰ The tax was finally repealed in 1836.¹⁹¹

There were four major issues with the English wallpaper tax. First, although the tax was imposed on locally manufactured wallpaper, no equivalent tax was imposed on imported wallpaper until much later. This disparate tax treatment significantly disadvantaged England's otherwise booming wallpaper industry.¹⁹² Second, the government's attempt to maximize revenue under the tax led to inefficiency and waste, such as preventing the use of machinery in wallpaper production or requiring wallpaper to be cut into smaller pieces so that more pieces were subject to tax.¹⁹³ Consumers, however, generally preferred larger or whole pieces of wallpaper to smaller ones.¹⁹⁴ Third, foreign consumers of exported wallpaper from England were not subject to the tax, while domestic consumers were subject to the tax.¹⁹⁵ Fourth, various tax avoidance strategies, such as hiring artisans to directly paint on plain paper already attached to the wall, or just painting on the plain plaster, became widely used.¹⁹⁶

To deter the use of such tax avoidance strategies, British government imposed a tax on the use of plain paper as wallpaper to be painted later on.¹⁹⁷ Regardless, such "half self-made" wallpaper still cost less than commercially manufactured wallpaper. Ireland also enacted a wallpaper tax at the same time, but it adopted a more aggressive anti-avoidance rule by making it illegal to hang plain paper to be painted and used as wallpaper. The law also permitted aggressive and potentially disruptive enforcement, such as government inspection of the interior of private houses without notice.¹⁹⁸

Interior architectural decoration grew in popularity as a trade as wallpaper design became an art form, either imported or stenciled after hanging.¹⁹⁹ Ideally, "[w]all papers should be printed

¹⁸⁸ See Owen W. Davis, *Friends in Council, Wall Papers*, in *THE BRITISH ARCHITECTURE* 291 (1882) (describing the importance of wall decoration including wallpaper in the history of British architecture).

¹⁸⁹ Taxation Act (1711), 10 Ann., c. 18, § 44 [hereinafter the Wallpaper Tax].

¹⁹⁰ See E.A. Entwisle, *Wallpaper and Its History*, 109 *J. ROYAL SOC'Y ARTS* 450, 451, 455 (May 1961).

¹⁹¹ Stamps and Taxes Act (1735), 5 & 6 Will c. 20; see also RICHARD LESLIE HILLS, *PAPERMAKING IN BRITAIN 1488-1988: A SHORT HISTORY* 85 (2015).

¹⁹² See HILLS *supra* note 191, at 84-85.

¹⁹³ See *id.* at 90.

¹⁹⁴ See Davis, *supra* note 188, at 291.

¹⁹⁵ See JOANNE KOSUDA-WARNER, *LANDSCAPE WALLCOVERINGS* 17 (2001); see also HILLS *supra* note 191, at 85.

¹⁹⁶ See JIM POSTELL & NANCY GESIMONDO, *MATERIALITY AND INTERIOR CONSTRUCTION* 212 (2011).

¹⁹⁷ Duties and Drawbacks Made to Cease as to Customs as to Excise Act (1792), 27 Geo. 3, c. 13, §8; see also Act for More Effectually Securing the Duties upon Foreign Printed, Painted or Pained Paper Imported into Great Britain (1792), 32 Geo. 3, c. 54, § 4.

¹⁹⁸ See *id.*

¹⁹⁹ *Id.*

in lengths . . . from 6 to 12 feet.”²⁰⁰ A wallpaper machine was invented to accommodate this length and facilitate production.²⁰¹ Despite these innovations, however, British wallpaper was cut into smaller sizes to accommodate the higher tax burden on larger sheets.²⁰² Regrettably, the tax on domestically created wallpaper stifled development of the industry in Great Britain.²⁰³ The tax was repealed in 1836, coinciding with the development of steam making machinery that mass-produced wallpaper at a significantly lower cost.²⁰⁴

The tax on wallpaper failed to raise the anticipated revenue, and instead disrupted the English wallpaper industry, and simultaneously distorted the behavior of buyers, encouraging alternative architecture designs such as hand painting and stenciling to avoid taxes.²⁰⁵

D. Japanese Hidden Stairs

In the Eighth century, Japan imposed a tax on multi-story buildings.²⁰⁶ The central government, the Bakufu, had power over the local governments and charged each village with collecting and paying the tax through leaders.²⁰⁷ The Bakufu did not impose consistent tax rates or regulations, delegating it to the village leaders, unless the tax rates were expressly in conflict with rules of the Bakufu.²⁰⁸ Komononari taxes were broad and included taxes on features that indicated wealth, such a second story of a houses.²⁰⁹ Further, during this time period, the tax burden fell mainly on farmers, who, with the village leaders, became resentful of wealthy merchants and would “[extort] taxes and loans from merchants” motivating some to disguise the square footage of a house.²¹⁰

Japanese artisans created stair chests called kaidan-tansu which many speculate was in response to these taxes, disguising two story homes as one story.²¹¹ They were intricate chests used as armoires or general storage as well as stairs that could be rolled in place for use as a staircase, or rolled out of sight if a tax accessor visited.²¹² Some kaidan- tansu could be disassembled to

²⁰⁰ Davis, *supra* note 188, at 291.

²⁰¹ See HILLS *supra* note 191, at 90.

²⁰² See *id.*

²⁰³ See HARRIET BRIDGEMAN & ELIZABETH DRURY, THE ENCYCLOPEDIA OF VICTORIANA 301 (1975).

²⁰⁴ See James A. Schmiechen, *Reconsidering the Factory, Art-Labor, and the Schools of Design in Nineteenth-Century Britain*, 6 DESIGN ISSUES 58, 61 (1990).

²⁰⁵ See Entwisle, *supra* note 190, at 457.

²⁰⁶ See KAZUKO KOIZUMI, TRADITIONAL JAPANESE FURNITURE: A DEFINITIVE GUIDE 24 (1986).

²⁰⁷ Dan Fenno Henderson, “Contracts” in Tokugawa Villages, J. JAPANESE STUD. 51, 56 (1974).

²⁰⁸ Gary R. Saxonhouse, *The Stability of Megaorganizations*, in 151(4) THE TOKUGAWA STATE J. INSTIT. AND THEORETICAL ECON. 741, 784-785 (1995); see also Thomas C. Smith, *The Land Tax in the Tokugawa Period*, 18 J. ASIAN STUD. 3, 9 (1995).

²⁰⁹ See Smith, *supra* note 208, at 12.

²¹⁰ See Eijiro Honjo, *Changes of Social Classes During the Tokugawa Period*, 3 KYOTO UNIV. ECON. REV. 56, 62 (1928).

²¹¹ See *id.*; There is debate about whether these staircases were designed to avoid taxes or merely for design. See, e.g., David Jackson, *The Kaidan Dansu, a Stairway in Historic Shadow*, JAPAN FOUND. 8 (2007) http://www.tansuconservation.com/wp-content/uploads/2014/03/djackson_kaidan.pdf [https://perma.cc/3V9X-3ABH].

²¹² See KAZUKO KOIZUMI, TRADITIONAL JAPANESE FURNITURE: A DEFINITIVE GUIDE 24 (1986); see also NICHOLAS BORNOFF, THINGS JAPANESE: EVERYDAY OBJECTS OF EXCEPTIONAL BEAUTY AND SIGNIFICANCE 7 (2014).

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further disguise it from the tax collector while other versions would be moved elsewhere in the home and appear as a bookcase or closet.²¹³

VI. TAXES AND SKINNY HOUSES

A. The Netherlands Frontage Tax

Among the unique characteristics of Amsterdam's architecture are the extremely narrow buildings,²¹⁴ particularly those along the Dutch canal.²¹⁵ In the early 17th century, Amsterdam was in its Golden Age, and the city was experiencing great expansion. Within 75 years, the population increased from 54,000 to 200,000. Due to the lack of space, particularly along the canal, the city of Amsterdam enacted a tax on houses based on the width of their frontage.²¹⁶ To reduce liability under the new tax, canal houses were built strikingly narrow, tall but deep so that it could provide more living space behind the frontage.²¹⁷ Those houses also had large windows to improve indoor lighting and to transport items in and out of the house through the pulley system, which were necessary given the unique physical structure of those houses. Ironically, when Napoleon came to power and imposed the French tax structure, taxes were imposed based on the size of the windows on the front of the houses. The Singel 166 building in Amsterdam is perhaps the narrowest building in the city: it is less than six feet wide, only slightly wider than the front door.²¹⁸

Interestingly, since the tax made wider houses significantly more expensive, building a house with wide frontage became a new symbol of power and wealth. For example, wealthy merchants would sometimes buy two adjacent plots of land to build "city palaces" along the canal. The "Golden Bend" (Gouden Bocht) of the Herengracht, one of the major canals in Amsterdam, was known as the wealthiest section of the city, with wide houses built on several adjacent lots.²¹⁹

The so-called "Dutch staircase" is another architectural change that accommodated houses with extremely narrow frontage.²²⁰ Such staircases were designed to be extremely steep and spiral to fit within the narrow space.²²¹ They were so steep that they were unfit for carrying items up and down the building, necessitating more architectural innovations.²²² The crane and pulley system was the answer. Such system featured a large hook permanently attached to the roof of the building. To bring items to the upper floors, a rope was put through the hook, creating the pulley that allowed lifting of heavy items. Once the items were lifted to the target level, they could be brought in

²¹³ See *The Home Office*, TORONTO STAR, Jan. 15, 2004, at HO 3; see also Christine Brun, *East and West Share Trend of Elegance in Room Design*, THE SAN DIEGO UNION-TRIBUNE (Apr. 2, 2006).

²¹⁴ See ADRIAAN JACOB BARNOUW & RAYMOND A. WOHLRABE, *THE LAND AND PEOPLE OF HOLLAND* 21 (1972).

²¹⁵ See *id.* at 134.

²¹⁶ See J. Wessels, *HISTORY OF THE ROMAN-DUTCH LAW* 292 (1908); BURTON MALKIEL & CHARLES ELLIS, *THE ELEMENTS OF INVESTING* 10 (2009); see also CARLSON, *supra* note 163.

²¹⁷ STEEN EILER RASMUSSEN, *EXPERIENCING ARCHITECTURE* 198 (1964).

²¹⁸ DEREK BLYTH, *AMSTERDAM, ROTTERDAM & THE HAUGE* 118 (1992).

²¹⁹ See *id.*

²²⁰ See BARNOUW, *supra* note 214, at 134.

²²¹ See *id.*

²²² See CARLSON, *supra* note 163.

through the large windows, another architectural feature mentioned earlier that specifically accommodated the narrow frontage design.²²³

B. The Frontage Tax in Charleston, South Carolina

Because of a tax on frontage, many houses in Charleston, SC feature narrow frontage, producing a distinctive architectural building design representative of the city, known as a Charleston Single.²²⁴ These characteristic residences are often several floors high and are built deep into the lot.²²⁵ The houses usually also have two substantial, upper and lower side porches called piazzas, which are often used as outside rooms.²²⁶ Such houses remained popular throughout the 18th Century and for most of the 19th Century, but abruptly disappeared after the 1890s.²²⁷ At its peak, the so-called Charleston Single House dominated the city with around 4,000 in existence.²²⁸ Today that figure is estimated to be 2,700.²²⁹

This unique architectural style coincided with a tax based on the frontage of buildings in the 18th and 19th century.²³⁰ Only the frontage facing the street was subject to the tax, which did not include the side porches.²³¹ To reduce liability under the tax, homeowners tried to minimize the building frontage while increasing its height and depth.²³²

C. Japan's Property and Inheritance Taxes

In Japan, three separate taxes: the frontage tax, the property tax on farmland and the inheritance tax, have historically led to uniquely small houses. The frontage tax was enacted to raise revenue and shift some of the tax burden from farmers to merchants and artisans.²³³ Rather than producing revenue, the tax resulted in very narrow, deep buildings with a width of rarely

²²³ See BARNOUW, *supra* note 214, at 134.

²²⁴ See SAM DAVIS, *THE ARCHITECTURE OF AFFORDABLE HOUSING* 152 (1997); WALTER EDGAR, *SOUTH CAROLINA: A HISTORY* 152 (1998); Michael Crosbie, *Gentle Infill in a Genteel Society*, in 45 *ARCHITECTURE* (July 1985); see also Jefferson Kolle, *Charleston Single House: Built to Last*, in *THIS OLD HOUSE* (2018), <https://www.thisoldhouse.com/ideas/charleston-single-house-built-to-last> [https://perma.cc/87SS-VGS8].

²²⁵ See EDGAR, *supra* note 224, at 197; see also Kolle, *supra* note 224.

²²⁶ See Kolle, *supra* note 224.

²²⁷ See Kristin Walker, *So What Exactly is the Charleston Single House?* *CHARLESTON INSIDE AND OUT* (June 11, 2009), <https://charlestoninsideout.net/2009/06/11/so-what-exactly-is-the-charleston-single-house/> [https://perma.cc/56XQ-HDE3].

²²⁸ See *id.*

²²⁹ *Id.*

²³⁰ See Crosbie, *supra* note 224; Kolle, *supra* note 224.

²³¹ See Burdett A. Rich, *Annotation, Mauldin v. Greenville (S.C.)*, in 27 *THE LAWYERS' REPORTS ANNOTATED* 284, 289 (1895) (discussing *State v. Charleston* where the court stated that the city of Charleston taxed its residents based on the frontage of their houses on the road, but that the tax did not cover improvements to the sidewalk in front of their houses).

²³² DAVIS, *supra* note 188, at 152.

²³³ YOSABURO TAKEKOSHI, *THE ECONOMIC ASPECTS OF JAPAN* 314 (2004); JAPANESE CAPITALS IN HISTORICAL PERSPECTIVE: PLACE, POWER AND MEMORY IN KYOTO, EDO AND TOKYO 106 (Fieve & Waley eds., 2003); see KARIN LOFGREN, *MACHIYA: HISTORY AND ARCHITECTURE OF THE KYOTO TOWN HOUSE* 238 (2003).

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exceeding six meters.²³⁴ The front, first floor was commonly used as a shop or marketplace while the back and upper floors were used as living quarters.²³⁵

The property tax on farms was almost negligible, motivated by a policy to encourage agriculture and reduce the financial burden on working farmers.²³⁶ However, because of the low property tax, there was little incentive to sell or improve the land because the cost of holding the land unused was minimal whereas there were immediate tax consequences if the land was sold.²³⁷ As a result, many farm owners would leave the land idle, rather than finding a more productive or efficient use for it.²³⁸

As a response to the consolidation and unproductive use of farm land, the inheritance tax on the same property was set extremely high to encourage sale and reduce the deadhand control of large real estates.²³⁹ However, the inheritance tax was reduced as the number of heirs increased, since a larger number of heirs served to break up the estate and more efficient use of the property.²⁴⁰ As a result, land inherited in Japan was progressively divided into smaller pieces.²⁴¹ Because the tax was based on both the size of the estate and the number of statutory heirs under the civil code,²⁴² it was beneficial to have as many heirs as possible, even if they were not named in the will.²⁴³ For example, testators sought to adopt grandchildren, nephews and nieces to make them statutory heirs.²⁴⁴

²³⁴ See Chapter L, The Revenue and Expenditures of the Shogunate, Annual Revenue under Ordinary Heading, (5)House land tax and the Household tax. It taxed the frontage of houses, and exempted three areas, suburban Kyoto, Sakai and Nara (not the cities themselves), which was enacted in 1696. A second tax was imposed called the Public Service Tax in 1721 which applied to the frontage of houses primarily in Edo. See TAKEKOSHI, THE ECONOMIC ASPECTS OF JAPAN 314 (1930); JAPANESE CAPITALS IN HISTORICAL PERSPECTIVE: PLACE, POWER AND MEMORY IN KYOTO, EDO AND TOKYO 106 (Fieve & Waley eds., 2003); KARIN LOFGREN, MACHIYA: HISTORY AND ARCHITECTURE OF THE KYOTO TOWN HOUSE 238 (2003).

²³⁵ See JAMES KING, UNDER FOREIGN EYES: WESTERN CINEMATIC ADAPTATIONS OF POSTWAR JAPAN 216 (2012); Kinoshita Ryoici, *Preservation and Revitalization of Machiya in Kyoto*, in JAPANESE CAPITALS IN HISTORY PERSPECTIVE: PLACE, POWER AND MEMORY IN KYOTO, EDO AND TOKYO 370 (Fieve & Waley eds., 2003); see also Yuko Nakamura & Aina Maeguchi, *What is Machiya and its History*, THE KYOTO PROJECT (May 27, 2013), <http://thekyotoproject.org/english/kyoto-machiya/> [https://perma.cc/S28F-CM9W]. Regarding the Japanese preference for new architecture, it “has no culture of house restoration.” See Lucy Alexander, *Why Foreign Buyers are seeking ‘Worthless’ Wooden Homes in Kyoto*, FIN. TIMES, <https://www.ft.com/content/a03d15b6-2b08-11e5-acfb-cbd2e1c81cca> (last visited July 24, 2015); Anthony J. Fielding, *Class and Space: Social Segregation in Japanese Cities*, 29 TRANS. INST. BRI. GEO. 64, 69 (2004) (“As incomes go up . . . the family will often knock down the old house and build a new one on the same site.”).

²³⁶ See HIROMITSU ISHI, THE JAPANESE TAX SYSTEM 230 (2001); *Rice and Trade-One Example*, 133 CONG. REC. E127 (daily ed. Jan. 8, 1987) (statement of Rep. Lehman).

²³⁷ See BERNIE SHELTON, LEARNING FROM THE JAPANESE CITY: LOOING EAST IN URBAN DESIGN 39 (2012); see ISHI, *supra* note 236, at 223.

²³⁸ See SHELTON, *supra* note 237, at 39; see ISHI, *supra* note 236, at 223.

²³⁹ See Carl S. Shoup, *Tax Reform in Japan*, 7 AUSTL. TAX F. 411, 439 (1990).

²⁴⁰ See *id.*

²⁴¹ *Id.*

²⁴² *Id.*

²⁴³ ISHI, *supra* note 236, at 230.

²⁴⁴ See *id.*

The joint effect of the property and the inheritance taxes often resulted in destroying family farms, as farmers decided whether to sell their farms during their lifetime or to leave the farms to their heirs, breaking it into smaller pieces in the process. Either way, the family farm was lost.

D. Vietnamese Tube Houses

Vietnamese “tube houses” are very narrow houses typically built up to five floors. The typical tube house was originally a building with shops on the first floor and living spaces above. As generations of the family grew, floors would be added.²⁴⁵ The architectural design coincided with a tax based on the frontage of the buildings.²⁴⁶ These houses could be as narrow as two meters and as long as 70 meters.²⁴⁷ Tube houses were first built in the “Old City” (Hanoi) during the Le Dynasty, from 1428 to 1788.²⁴⁸ To receive more natural light, despite the narrowness, such houses often had multiple courtyards along the longer side. The traditional tube house construction continued until the end of the 19th century.²⁴⁹

Despite the fact that tube houses were designed to reduce the tax burden, these houses have become a fundamental part of Vietnam’s architecture.²⁵⁰ They are often very colorful, as well as architectural feats, with staircases, balconies, and roof decks despite their narrowness.²⁵¹ Recognizing its independent architectural value, UNESCO-funded organizations have restored some tube houses as representatives of the 19th century houses in the Old City.

E. New Orleans

The traditional New Orleans “shotgun houses” were very narrow, often only one room wide, but long and deep into the lot.²⁵² The houses received their names because it would be easy to fire a shotgun from the front door straight into the back since the house was so long and

²⁴⁵ *Id.*; see also Ta van Tai, *Vietnam's Code of the Lê Dynasty (1428-1788)*, 30 (3) AMER. J. COMP. LAW 523, 538-539 (1982). Law on Agricultural Land Use Tax (1993) and Decree on Land and Houses Tax (1994);

²⁴⁶ The code was Quốc triều hình luật, later translated into French by R. Deloustal and Cl.-E. M., *La Justice dans l'ancien Annam*, 8 BULLETIN DE L'ÉCOLE FRANÇAISE D'EXTRÊME-ORIENT 13,19, 22 (1908-22). The Real Estate Taxation Sections were §§ 342-373; Deloustal, at 10: 461 et. seq.; see also Thi Nhu Dao, *Urbanization and Urban Architectural Heritage Preservation in Hanoi: The Community's Participation?* in SOC. UNIVERSITÉ PANTHÉON-SORBONNE, PARIS I (2017).

²⁴⁷ See PETER BOOTHROYD & PHAM XUAN NAM, *SOCIOECONOMIC RENOVATION IN VIETNAM: THE ORIGIN, EVOLUTION, AND IMPACT OF DOI MOI 90* (2000).

²⁴⁸ See RICHARD STERLING, *DK EYEWITNESS TRAVEL GUIDE: VIETNAM AND ANGKOR WAT 27* (2013). The law of the Le Dynasty was known as “Hong Duc Law” (translated as Imperial Criminal Law or Le Dynasty criminal law, despite the fact that it also included tax provisions), which was the most prominent and vital law in feudal-jurisdictional Vietnam.

²⁴⁹ See To Kein, *Tube House and Neo Tube House in Hanoi: A Comparative Study on Identity and Typology*, 262 J. ASIAN ARCH. AND BUIL. ENGINEERING 255 (2008).

²⁵⁰ See Alexandra Sauvegrain, *Dialogues of Architectural Preservation in Modern Vietnam: The 36 Streets Commercial Quarters*, 13 TDSR 23, 25 (2001); see also M. ASKEW & W.S. LOGAN, *CULTURAL IDENTITY AND URBAN CHANGE IN SOUTHEAST ASIA: INTERPRETIVE ESSAYS* 50 (1994).

²⁵¹ See Sauvegrain, *supra* note 250, at 25; MARC ASKEW, *CULTURAL IDENTITY AND URBAN CHANGE IN SOUTHEAST ASIA: INTERPRETIVE ESSAYS* 50 (Marc Askew & William Stewart Logan eds., 1994).

²⁵² See, e.g., Jay D. Edwards, *Shotgun: The Most Contested House in America*, J. VERNACULAR ARCHITECTURE FORUM 62 (2009) (discussing various non-tax explanations for the architectural design of shotgun houses).

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narrow.²⁵³ Despite the possibility that non-tax factors such as lot size or the need for cooling might have motivated the design,²⁵⁴ the New Orleans Bar Association has taken the position that the shotgun houses were probably used to avoid taxes.²⁵⁵

Some evidence also indicated that the city of New Orleans countered the use of shotgun houses with a tax calculated based on the number of hallways or closets in the building.²⁵⁶ There is also evidence that taxpayers responded to the new tax by minimizing the number of hallways and closets.²⁵⁷ However, the actual reason for such architectural design remains uncertain and debatable.

VII. THE DIRECT TAX OF 1798 AND ITS IMPACTS ON AMERICAN ARCHITECTURE

In the early days of the United States, despite the rarity of federal taxes, the main source of revenue for the federal government was real property taxes.²⁵⁸ The federal government usually apportioned the burden of such taxes among the states and allowed each state to administer its own tax system. This could lead to different enforcement regime in each state. For example, in New Jersey, although the land itself has independent economic value, taxes generally applied only to land with buildings or other improvements.²⁵⁹ Consequently, property owners reduced their tax liabilities by separating improved from unimproved parcels, in order to reduce the value of the parcels with improvements and thus subject to tax.²⁶⁰ As another example, New Hampshire enacted a law that made each individual property holder in a community jointly and severally liable for the entire property tax liability of that community.²⁶¹ This eased the burden of accounting on the state before it could sue and seize properties of an individual for tax delinquency. The unlucky individual whose properties were seized could then sue their neighbors for contribution.²⁶²

A. The Direct Tax of 1798

²⁵³ See Campanella, *supra* note 72.

²⁵⁴ See *id.*

²⁵⁵ See Ned Hemard, *New Orleans Nostalgia: Remember New Orleans History, Culture and Traditions*, NEW ORLEANS BAR ASSOC. (2018), http://www.neworleansbar.org/uploads/files/They%20All%20Taxed%20For%20You_3-18.pdf [https://perma.cc/MR73-F5U5].

²⁵⁶ See CHRISTIAN ANTENHOFF ET AL., CITIES AS MULTIPLE LANDSCAPES: INVESTIGATING THE SISTER CITIES INNSBRUCK AND NEW ORLEANS 152-53 (2016)

²⁵⁷ See *id.*

²⁵⁸ See GLENN W FISHER, THE WORST TAX? A HISTORY OF THE PROPERTY TAX IN AMERICA 15 (1996).

²⁵⁹ See *id.*

²⁶⁰ *Id.*

²⁶¹ *Id.*

²⁶² *Id.*

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The Direct Tax of 1798 was imposed on land, residential houses and slaves.²⁶³ The Federal government sought to raise \$2 million in anticipation of an upcoming war with France.²⁶⁴ Congress divided the \$2 million total among the states and required that each state assess the tax.

Alexander Hamilton, the former Secretary of the Treasury, favored a tax on houses over land, believing houses could be valued more accurately and were a better measurement of taxpayer wealth, using indicators like the number of rooms, wallpaper and other signs of lavishness. A tax on houses also ensured that citizens residing in urban and rural areas shared the tax burden rather than for the tax to disproportionately affect taxpayers such as farmers.²⁶⁵ Oliver Wolcott, then Secretary of the Treasury, was against enacting any tax at all, but if one was enacted, he preferred a land tax, believing that residences were merely a cost of living whereas farm land was a source of income and the tax would be merely a cost of producing that income. Alternatively, he proposed a house tax that would initially exempt the houses of farmers and their laborers.²⁶⁶ Ultimately, the tax was a combination of both.²⁶⁷ Sixty-five percent of the tax was to be on dwellings, with the remainder of the tax imposed on land and slaves.²⁶⁸

The tax assessed on the dwellings was based on such factors as the number of windows, the building materials used, the number of floors, and the dimension of any outhouse.²⁶⁹ The tax was progressive, intended to tax the wealthy at a higher rate, but the progressivity only applied to dwellings; land and slaves were taxed at fixed rates.²⁷⁰ It had harsh results for farmers because they often did not have liquid asset such as cash and were at risk of foreclosure if they were unable to pay the tax.²⁷¹

The Direct Tax of 1798 was criticized by many and was unpopular with the public, triggering memories of the despised hearth taxes and window taxes imposed on many citizens in their former countries.²⁷² For example, John Williams from New York remarked before the House of Representatives that a land tax would penalize owners of large tracts of land such as farmers in

²⁶³ An Act Authorizing the President of the United States to Raise a Provisional Army, May 28, 1798 558-61 [hereinafter the Provisional Army Act]; An Act to Provide for the Valuation of Lands and Dwelling Houses and the enumeration of Slaves within the United States, July 9, 1798, 1: 580-91; An Act to Lay and Collect a Direct Tax within the United States, July 14, 1798, 1: 597-604 [hereinafter the Valuation Act]; An Act Respecting Alien Enemies, July 6, 1798, 1: 596-97 [hereinafter the Direct Tax]; An Act for the Punishment of Certain Crimes Against the United States, July 14, 1798, 1: 596-97; *see also* NEWMAN, *supra* note 69, at iv.

²⁶⁴ *See* James R. Campbell, *Dispelling the Fog About Direct Taxation*, 1 BRIT. J. AM. STUD. 109, 142, 144 (2012); *see also* HARRY C. ADAMS, *THE DIRECT TAX OF 1798* 234 (1994) (explaining that the Direct Tax was unpopular because the war with France was mere speculation); *The Provisional Army Act*, *supra* note 263; *The Valuation Act*, *supra* note 263.

²⁶⁵ *See* Campbell, *supra* note 264, at 142, 144 (2012); ADAMS, *supra* note 264, at 234.

²⁶⁶ *See* NEWMAN, *supra* note 42, at 5, 31, 77; *see also* ADAMS, *supra* note 11, at 351; DOWELL, *supra* note 42, at 390-91.

²⁶⁷ *See* Campbell, *supra* note 264, at 142.

²⁶⁸ *See* NEWMAN, *supra* note 69, at 76.

²⁶⁹ *The Direct Tax, The Valuation Act*, §9; *see also* Campbell, *supra* note 264, at 143 (2012).

²⁷⁰ *See* NEWMAN, *supra* note 70, at iv, 77; *see also* CYNTHIA G. FALK, *ARCHITECTURE AND ARTIFACTS OF THE PENNSYLVANIA GERMANS, CONSTRUCTING IDENTITY IN EARLY AMERICA* 101 (2008).

²⁷¹ *See* Newman, *supra* note 70, at 13.

²⁷² *See* Campbell, *supra* note 264, at 142-43; *see also* ADAMS, *supra* note 264, at 234; NEWMAN, *supra* note 69, at 20-21.

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favor of urban residents.²⁷³ Some argued that the tax burdened homeowners and farmers who improved or cultivated their land but benefited land speculators.²⁷⁴ One of the strongest objections to the Direct Tax of 1798 was that it directed assessors to count the number of windows in a dwelling.²⁷⁵ It alarmed citizens that a window tax similar to the taxes imposed in Europe had followed them to their new country.²⁷⁶ In truth however, there was not a tax on windows and they were not part of the assessment. Rather, assessors were asked to count the windows should a window tax be enacted in the future.²⁷⁷

Residents in Pennsylvania had strong objections to the tax in part because of the large German population who were still resentful of the hearth tax imposed in Germany.²⁷⁸ There was an active resistance to the tax resulting in the “Fries Rebellion.”²⁷⁹ The community prevented assessors from doing their jobs by blocking assessors from completing their assessments and throwing scalding hot water on any assessors who came close to their homes.²⁸⁰ Residents in Pennsylvania would also prevent foreclosures for non-payment of the tax by blocking roads.²⁸¹

B. Dutch Colonial Architecture

The Dutch Colonial house is a famous example of architecture developed to avoid taxes imposed by the Direct Tax of 1798.²⁸² A Dutch Colonial house typically has a gambrel roof, sometimes with flared eaves, and frequently has dormers.²⁸³ The amount of taxes under the Direct Tax of 1798 was partially determined by the number of floors, and, according to the Federal Direct Tax Records of 1798, gambrel-roofed houses were treated as having only one floor because the upper floor under the gambrel roof was considered an attic.²⁸⁴ A Dutch Colonial house helped to minimize taxes and at the same time had a living space equivalent to that of a two-floor building

²⁷³ See FALK, *supra* note 270, at 101.

²⁷⁴ See ORACLE OF DAUPHIN, AND HARRISBURG ADVERTISER, Jan. 23, 1799; *see also* NEWMAN, *supra* note 70, at 16.

²⁷⁵ See ORACLE OF DAUPHIN, AND HARRISBURG ADVERTISER, Jan. 23, 1799; *see also* NEWMAN, *supra* note 70, at 16.

²⁷⁶ See NEWMAN, *supra* note 69, at 5, 31, 77; *see also* ADAMS, *supra* note 11, at 351; DOWELL, *supra* note 42, at 390-91.

²⁷⁷ See NEWMAN, *supra* note 69, at 77.

²⁷⁸ See ADAMS, *supra* note 11, at 326 (German Citizens in particular despised hearth taxes that had been imposed in their former homeland and were unwilling to be subjected to them again); *see also* NEWMAN, *supra* note 69, at 20-21.

²⁷⁹ See ADAMS, *supra* note 264, at 234; *see also* FALK, *supra* note 270, at 102.

²⁸⁰ See GLADYS BUCHER SOWERS, *LEBANON COUNTY PENNSYLVANIA UNITED STATE DIRECT TAX OF 1798 2* (2006) (noting that the Direct Tax also was known as the Hot Water Tax because of the hot water thrown at assessors); *see also* NEWMAN, *supra* note 69, at 13; ADAMS, *supra* note 264, at 234.

²⁸¹ See NEWMAN, *supra* note 69, at 5.

²⁸² See NOBLE, *supra* note 49, at 61. This record was discovered in *Returns of the United States Direct Tax of 1798*, the New England Historical and Genealogical Register 45, 82-83 (Jan. 1891). In addition, the “Board of Commissioners Record Book, 1798,” at the Connecticut Historical Society Museum in Hartford contains relevant information.

²⁸³ See NOBLE, *supra* note 49, at 61; EBERLEIN, *supra* note 134, at 26.

²⁸⁴ This record was discovered in *Returns of the United States Direct Tax of 1798*, the New England Historical and Genealogical Register 45, 82-83 (Jan. 1891). In addition, the “Board of Commissioners Record Book, 1798,” at the Connecticut Historical Society Museum in Hartford contains relevant information.

since gambrel roofs allowed the top floor to be used as a living space.²⁸⁵ Commentators stated that “[o]f all of the types of domestic architecture . . . modified during the Colonial period, none more generally commends itself to the favourable consideration of the modern home builder than the Dutch Colonial.”²⁸⁶

C. The Saltbox Houses

“Saltbox houses” are traditional New England style houses, characterized by a wooden frame house with a clapboard exterior.²⁸⁷ The front of the house appears to be a two-story house, while the back roofline slopes steeply down allowing for smaller space in the back.²⁸⁸ Houses with this slanted shape date back to the colonial New England in 1650 when they were classified as a single-story house for tax purposes under a tax imposed by Queen Anne despite allowing for larger living space.²⁸⁹ The saltbox house continued in popularity as it was classified as a single story house under the Direct Tax of 1798 as well

Historically, one of the most famous Saltbox houses was the birthplace of John Adams, the second President of the United States. The place now belongs to a National Historic Park in Massachusetts.

VIII. ARCHITECTURAL CHANGES FROM LAND TAXES VERSUS BUILDING TAXES

A. Tax Laws that Discourage New Improvements and Buildings

Property taxes based on the value of land improvements or buildings can discourage new improvements and buildings.²⁹⁰ Property owners, particularly speculators, might be incentivized to allow their properties to fall into disrepair or to underutilize their properties in order to lower the tax liabilities.²⁹¹ Further, such taxes may encourage speculators to subdivide their land into smaller, developed or undeveloped parcels, in order to minimize the value of undeveloped parcels.²⁹²

As evidence of the depressing effect on land improvement efforts, Pennsylvania enacted a law in 1913, requiring the cities of Pittsburgh and Scranton to assess buildings at a lower rate than land.²⁹³ It was an experiment to see if the change in taxes affected the development and use of land.²⁹⁴ Not surprisingly, following the law’s enactment, the volume of building construction increased, estimated by the number of new building permits issued. This in turn caused the market

²⁸⁵ See NOBLE, *supra* note 49, at 61.

²⁸⁶ See *id.* at 37.

²⁸⁷ *Id.* at 48.

²⁸⁸ JANE DE-Forest SHELTON, *THE SALT-BOX HOUSE: EIGHTEENTH CENTURY LIFE IN A NEW ENGLAND TOWN* 23 (1902).

²⁸⁹ See *id.*

²⁹⁰ See Coughlan, *supra* note 2, at 261 (arguing that taxes on buildings may result in owners failing to maintain existing structures).

²⁹¹ See DEL. VALLEY REG’L PLANNING COMM’N, *CHASING RATABLES: THE IMPACT OF PROPERTY TAXES ON LOCAL PLANNING* (2005) (encouraging townships and the states to implement land value taxation to reduce speculation and bring attention to neighborhood decline); see also *Municipal Real Estate Taxation*, *supra* note 21, at 229-30.

²⁹² See *Municipal Real Estate Taxation*, *supra* note 21, at 221-22.

²⁹³ Pa. Laws 1913, No. 147; see also MARTIN, *supra* note 12, at 111-12.

²⁹⁴ See MARTIN, *supra* note 12, at 111.

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price of undeveloped land to fall and made land speculation less economically attractive.²⁹⁵ Obviously, the new law also reduced the tax burden on homeowners.²⁹⁶ Following the experiment, the city of Pittsburgh imposed an increased tax on the value of land itself, which further encouraged residential and commercial building construction.²⁹⁷

Australia and Canada also historically modified their land tax policies to try to encourage the development of architecture and construction.²⁹⁸ Australia in 1906 and Western Canada in 1892 both imposed taxes either on the value of land itself, or on the value of land plus the value of improvements and buildings with the latter at a reduced rate.²⁹⁹ In both cases, the result was an increase in the volume of new building construction.³⁰⁰ Australia in particular, after the revision of the law, there was evidence that areas in economic disrepair were revitalized with new construction projects.³⁰¹

B. Russian Tax on Plowed Land

As another example, there was evidence that a tax on plowed farm land in Russia during the Seventeenth century led to underdeveloped land.³⁰² Since the tax was imposed on plowed land only, taxpayers were incentivized to leave their land uncared. Land was used unproductively and families gave up farming.³⁰³

In addition, since the tax was also imposed on a one-dwelling-one-tax basis, many people chose to live together and share a common dwelling to minimize tax. This contributed to the growth of duplexes and triplexes.³⁰⁴

In response, tax collectors began to consider each door that gave access to the outside as a separate household.³⁰⁵ Families using shared dwelling in turn began to board up additional doors.³⁰⁶ Eventually, Peter the Great revised the tax system, eliminating the tax on plowed land, and instating a poll tax on males instead.³⁰⁷

IX. TAX AND ECO-FRIENDLY BUILDING

²⁹⁵ See Nathan Farris, *What to do When Main Street is Legal Again: Regional Land Value Taxation as a New Urbanist Tool*, 164 U. PA. L. REV. 755, 766 (2016).

²⁹⁶ See *Municipal Real Estate Taxation*, *supra* note 21, at 233.

²⁹⁷ See generally Nicolaus Tideman & Cathleen Johnson, *A Statistical Analysis of Graded Property Taxes in Pennsylvania*, in 3 LINCOLN INST. LAND POLICY (1995); Farris, *supra* note 295, at 775.

²⁹⁸ See *Municipal Real Estate Taxation*, *supra* note 21, at 238-239.

²⁹⁹ See *id.*

³⁰⁰ *Id.*

³⁰¹ See MARTIN, *supra* note 12, at 116-17; see also Coughlan, *supra* note 2, at 261.

³⁰² See JOHN WILKINSON, *REAL ESTATE TAX SHELTERS HANDBOOK* 176-77 (1980); see also ADAMS, *supra* note 11, at 177 (noting previous taxes created a culture of idleness which Peter the Great had to overcome to incentivize citizens to work).

³⁰³ See WILKINSON, *supra* note 302, at 177; see also ADAMS, *supra* note 11, at 177.

³⁰⁴ See WILKINSON, *supra* note 302, at 177; see also ADAMS, *supra* note 11, at 177.

³⁰⁵ See WILKINSON, *supra* note 302, at 177; see also ADAMS, *supra* note 11, at 177.

³⁰⁶ See ADAM, *supra* note 11, at 177 (noting previous taxes created a culture of idleness which Peter the Great had to overcome to incentivize citizens to work).

³⁰⁷ See BURTON MALKIEL & CHARLES ELLIS, *THE ELEMENTS OF INVESTING* 10 (2009); see also ADAM, *supra* note 11, at 177.

Taxes are frequently used as inducement for decisions regarding development and conservation.³⁰⁸ However, tax laws intended to change behaviors concerning environmental protection might lead to unintended architectural changes, sometimes even to the detriment of the environment.³⁰⁹

A. Inaccurate Proxy for “Eco-friendly”: The LEED Standard

Many jurisdictions use the LEED standard as a standard for certain favorable tax treatments in order to incentivize private research and development of eco-friendly buildings.³¹⁰ The Leadership in Energy and Environmental Design (LEED) program was developed by the U.S. Green Building Council, a non-profit organization.³¹¹ The LEED standard evaluates a building for environmental sustainability in six areas: (1) location and sitting, (2) water efficiency, (3) energy and atmosphere, (4) materials and resources, (5) indoor environmental quality, and (6) innovation and design.³¹² Earning points under the standard awards certificates of different levels which are used by many jurisdictions to determine the amount of tax credits a taxpayer is entitled to for eco-friendly initiatives.

However, the LEED standard itself is often exploited. For example, critics of LEED standard argue that the average certified building increases the need for automobiles by 137%.³¹³ Since LEED projects are usually located far from city centers,³¹⁴ they sometimes necessitate additional automobile use, but automobile use associated with the project is not factored into the LEED standard.³¹⁵ In addition, developers often choose the cheapest ways to accumulate points, like using bamboo flooring or including bike racks, but these measures might not contribute a lot to environmental sustainability.³¹⁶ It is contended that one quarter of LEED certified buildings do not meet the energy saving goals.³¹⁷

B. Competing Interests: The Solar Projects

Despite the wide use of tax incentives for the use and development of solar technology,³¹⁸ solar panels and solar farms are often deemed aesthetically unappealing and undesirable (like

³⁰⁸ See James McElfish, *Taxation Effects on Land Development and Conservation*, 22 TEMP. ENVTL. L. & TECH. J. 139 (2004) (noting that there has been a long relationship between tax policy and land use, but it is rarely made explicit in public policy documents).

³⁰⁹ See McElfish, *supra* note 308, at 139 (noting that taxes can change the economic behavior regarding the transactions it targets).

³¹⁰ See N.Y. Tax Law §19 (2018); see also Nancy J. King & Brian J. King, *Creating Incentives for Sustainable Buildings: A Comparative Law Approach Featuring the United States and the European Union*, 23 VA. ENVTL. L.J. 397, 421-22 (2005).

³¹¹ *The Leadership in Energy and Environmental Design*, U.S. GREEN BUILDING COUNCIL, <https://new.usgbc.org/> [https://perma.cc/6DUK-VYWY].

³¹² See *id.*

³¹³ See James A. Kushner, *Affordable Housing as Infrastructure in the Time of Global Warming*, 42/43 URB. LAW. 179, 213 (2011).

³¹⁴ See *id.*

³¹⁵ *Id.*

³¹⁶ *Id.*

³¹⁷ *Id.* at 213-14.

³¹⁸ *Id.* at 268.

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nuisance).³¹⁹ As an example, California enacted a law preventing local governments from denying permits for solar technology based exclusively on aesthetic concern and allowing denials only for safety or public health reasons.³²⁰

X. CONCLUSION

Although the primary goal of a tax is to raise revenue, there are times when it is used to induce certain behaviors or actions. There are also times when tax laws are enacted solely to induce certain behaviors. Often, a tax distorts taxpayer behaviors beyond their expectations, sometimes in direct contravention of what the law was enacted to incentivize.

Much of my previous scholarship has explored the same phenomenon with a focus on corporate tax. This Article serves as an illustration and proof of the distortion that results when tax laws are designed to target a class of people or action as a proxy for something else. Architecture is the perfect example though which such distortion can be viewed directly and intuitively: it is right in front of us.

³¹⁹ *Id.* at 251.

³²⁰ Cal. Gov't Code Sec. 65850.5(b) (West 2018).