ANY colonial society has a tendency to adapt to its new surroundings those procedures and amenities that had proved satisfactory in the homeland. That being so, it is not at all surprising that Philadelphia, founded in 1681, should have patterned the regulations adopted for its own governance on some of the rules and some of the proposals put forward for the rebuilding of London after the Great Fire of 1666. Philadelphia became in many ways a trans-Atlantic mirror of post-Fire London reflecting that English city in its architecture and in its design for urban living.

London’s great fire began shortly after midnight on September 1 at the house and place of business of Thomas Farynor, the king’s baker who lived in Pudding Lane. Pudding Lane was a chasm of a street that ran down steeply from Little Eastcheap to Lower Thames Street at London Bridge. The walls of this particular chasm were formed by the half-timbered houses with their projecting jetties, roofs, and gables that almost met over the middle of the street. Streets so encumbered with buildings were full of hazards, not the least of which was fire. And so it proved to be on the night in question, when a strong northeast wind turned Pudding

Lane into a chimney and a fire in a minor London street into THE FIRE of London. What appeared at its beginning to be an ordinary, easily controlled blaze ended by raging unrestrained from September 1 to 5. Indeed, it was not until September 7, that people could go through the city safely. Losses were estimated at something between seven and a half and ten million pounds. Three hundred and seventy-three acres of the city were leveled and 13,200 houses lost. John Evelyn summed it up thus in his diary entry for September 10: “I went againe to the ruines, for it was now no longer a Citty.”

Rumors flew wildly, ascribing the disaster to many causes, most frequently to foreigners, spies, or other ill-intentioned persons. Publications like Rege Sincera: Observations both Historical and Moral upon the Burning of London and Thomas Vincent’s God’s Terrible Voice in the City found readers aplenty. The official Commission of Enquiry, reporting in 1667, stated unequivocally that God alone had been responsible for the holocaust, and the plaque, later erected on the site of Farynor’s house, declared: “Here by permission of heaven hell broke loose...”

Within two weeks the work of rebuilding London had begun. The City at once sent a request to the King asking for a “new model,” that is a new city plan, and on September 13 Charles II issued the first of a series of proclamations ordering all new houses to be built of brick or stone, all main streets to be wide enough to check the progress of any subsequent fire, and alleys to be kept to a minimum number. Planners, both amateur and professional, were soon busy drawing up proposals for a new city. Sir Christopher Wren, Surveyor General of the Royal Works, had his draft ready for the King’s review by September 11, an incredible six days after the fire was over. John Evelyn, diarist and member of the Royal Society, presented his to Charles two days later. Four other schemes are known, including one by Jan Craalinge, a resident of Amsterdam. Maps showing the burned city, sometimes combined with one of the

---

3 Ibid., 156.
4 Ibid., 183. For a list of some of the proclamations relating to the Fire and to London’s rebuilding, see Robert Steele, ed., Bibliography of Tudor and Stuart Proclamations (Oxford, 1910), particularly, #3477 (Oct. 10, 1666), for clearing foundations; #3488 (Mar. 21, 1667), for specifying wide streets and streets of note; #3491 (Apr. 29, 1667), for enlarging the streets.
proposals for its rebuilding, were issued by both English and Dutch printsellers and apparently enjoyed a ready sale.⁵

Evelyn, the theorist, designed his city on classically baroque lines. A main street running from west to east included several open areas along the way from the Strand to King Charles’ gate, the principal ones being at St. Paul’s and the Mansion House. This main street was to be 100 feet wide. Other east-west streets were arranged parallel to it and were given a fifty-foot breadth. At the Thames River, five focal points were planned, all with spacious squares. From these, roads ran north to one or another of the major city gates or to an important public building.⁶

Wren, the professional, whose plan, he maintained, was preferred by the City,⁷ also featured a wide, in this case ninety-feet wide, east-west street going from St. Paul’s to the top of Fleet Street, as well as a second of similar breadth running from Newgate to the Royal Exchange. He further proposed to replace several old streets—Newgate, Cheapside, Cornhill and Thames Street—by long straight highways and to connect these by lesser streets radiating from squares.⁸

Other, more radical designs, like Craalinge’s and Newcourt’s, would have eliminated the old street patterns completely, and in the light of London’s realities must have seemed more like academic exercises than serious suggestions for the rebuilding of the devastated city. Even Wren’s more modest proposal could not be put into operation. The cost would have been enormous and the long upheaval incident upon the execution of a scheme of that magnitude and one requiring a readjustment of property rights of such mammoth proportions would have been intolerable to Londoners.

London as rebuilt represented a compromise between the planners who wanted their city to be new and orderly and open, and the

⁵ Priestley, 183–186; maps showing the devastation of London after the Fire and plans for its rebuilding are listed and described in John Gregory Crace, Catalogue of Maps of London (London, 1878), Portfolio XVII, #1; and Ida Darlington and James Howgego, Printed Maps of London, circa 1553–1850 (London, 1964), 22, 61, 62.

⁶ Priestley, 184–185; Reddaway, 286ff.; Crace, Portfolio XVII, #s 8–10.

⁷ “Plan for Rebuilding the City of London after the Great Fire in 1666. Designed by that great Architect Sir Christopher Wren, and approved by the King and Parliament, but unhappily defeated by Faction,” Crace, Portfolio XVII, #4.

⁸ Priestley, 185–186.
less utopian-minded who wanted things to get going as quickly as possible and with no more change and expense than need be. Partly because of the legal complications and the expense of acquiring from hundreds of landowners the land needed to replan the city, to widen the streets and straighten them out as both Evelyn and Wren had proposed, the changes in street patterns were minimal. Even the city’s most important thoroughfares were surveyed with widths of no more than forty, fifty, or fifty-five feet, and almost all of the suggested open areas were eliminated.\(^9\)

Before any plan, radical or conservative, could be put into operation, streets had to be cleared of rubble and ashes, and both street and property lines surveyed. A notable by-product of this necessary survey was the development of the first accurate map of London, "surveyed and Delineated, by John Ogilby, Esq; His Majesties Cosmographer" and by William Morgan, Mrs. Ogilby’s grandson.\(^10\)

The surveying of street and property lines was a particularly difficult task because most medieval houses had no deep foundations but sat on the ground on heavy oak sills, which when burned left little record.\(^11\) By the end of the year, however, the survey was complete enough for work to proceed. In addition, committees had made reports, a way of raising the needed money had been agreed upon (a tax would be levied on coal coming into the port of London), and the whole embodied in a Rebuilding Act which after being debated and passed by Parliament was signed into law by Charles

---

\(^9\) See John Overtoil’s “New and plaine Mapp of the City of London; showing the Streets, Lanes, Allies, Courts, Churches, Halls, and other remarkable places, as they are now rebuilt, 1670,” in Crace, Portfolio II, #69. For note of a special seal to be used by the Justices of the King’s Bench and Common Pleas courts and by the Barons of the Exchequer appointed to “determine the value of the lands to be purchased for enlargement of the streets of London,” Calendar of State Papers, Domestic Series, 1670, entries for Feb. 17, May 6, 1670, pp. 71, 202. See also “An Act for erecting a Judicature for Determination of Differences touching Houses burned or demolished by reason of the late Fire which happened in London . . .," in Statutes at Large From the First Year of King James the First to the Tenth Year of the Reign of King William the Third . . . (London, 1757), III, 302-303, hereinafter cited as Statutes. Also, ibid., p. 308, 334, "An Act for the Rebuilding of the City of London," Sec. XXVII, 308; and “An Additional Act for the Rebuilding of the City of London,” III Sec. XXII, 334.

\(^10\) Darlington and Howgego, 22, 65.

\(^11\) Samuel Pepys’ house was one of the exceptions. See the entry in his diary for Sept. 2, 1666, wherein he speaks of moving “my money and iron chests into my cellar”; and those for Sept. 10 and 11, where mention is made of “clearing our cellars.” Mynors Bright, ed., Diary of Samuel Pepys (London, 1959), II, 317, 326.
on February 8, 1667.\textsuperscript{12} The five months from September to February must have seemed aeons to homeless Londoners, but, all things considered, matters had been arranged with amazing speed. The terror of that September week was not quickly forgotten, however. Samuel Pepys, whose house did not burn, making him one of the more fortunate of Londoners, even while recording his satisfaction at being able to sleep in his own bed once again, added "But much terrified in the nights . . . with dreams of fire and falling down of houses."\textsuperscript{13}

Some fifteen years later, basic elements from many of these decisions, proclamations, and acts of Parliament crossed the Atlantic to become the underpinning for the design of Philadelphia, the capital city of William Penn's province. Penn had been in Ireland at the time of the Fire, but he knew London from his days as a student at Lincoln's Inn in 1664 and 1665. This, combined with his Irish experience, his acquaintance with the continent, particularly with the Dutch cities, and his association in the 1670s with the Proprietors of both East and West Jersey provided him with a very considerable body of practical knowledge to draw upon when planning the capital city of his proposed colony. Like Evelyn, he seems to have had a philosophical interest in urban design. In fact, this may have been an integral part of a seventeenth-century gentleman's baggage, as a knowledge of architecture was part of the eighteenth-century gentleman's equipment.

Penn presented his plans for Philadelphia in three essays: "Certain Conditions and Concessions . . . (1681); "Instructions given by mee, W. P. . . . to . . . My Commissioners for settling the present Collony . . ."; and \textit{Letter to the Free Society of Traders} (London, 1683).\textsuperscript{14} These written proposals were translated into graphic form by Thomas Holme, his surveyor. The gridiron concept delineated by Holme, a concept for which Philadelphia is famous, or infamous, was basic to several of the plans submitted for the reconstruction

\textsuperscript{12}"An Act for the Rebuilding of the City of London," \textit{Statutes}, III 303-312; Priestley, 187-188; Reddaway, 78-79.

\textsuperscript{13}Pepys, \textit{Diary}, Sept. 28, 1666, II, 333.

\textsuperscript{14}The first is printed in Samuel Hazard, \textit{Annals of Pennsylvania, from the Discovery of the Delaware, 1600-1682} (Philadelphia, 1850); the second, in \textit{Memoirs of the Historical Society of Pennsylvania} (Philadelphia, 1827), II, 215-221; the third is in the library of the Historical Society of Pennsylvania.
of London. It was also a regular feature of the design of seventeenth-century garrison towns, both in Ireland and on the continent. It is interesting, even slightly ironic, that their schema, based on military need, should have been reflected in the squares and wide, straight streets of Quaker Philadelphia. Another source for Penn’s ideas could have come from his days at Lincoln’s Inn. The Inn’s Fields were then in process of development and, unlike other contemporary speculative proposals for the creation of residential squares, the Fields were not reserved for the exclusive use of the affluent residents whose houses surrounded them.\(^{15}\) Penn, too, planned Philadelphia’s squares for public use, citing the Moorfields, just north of the City boundary as his precedent, perhaps because their open character was so well known. It is also worth noting that the plan for Philadelphia did not make use of any of the more grandiose baroque features, the radials and circles of Evelyn’s and Wren’s proposals for London. Penn and Holme projected an orderly city, one reasonable for execution in the New World.

Among the plans proposed for London’s rebuilding, Richard Newcourt’s most strikingly resembles Holme’s for Philadelphia.\(^{16}\) Holme was a surveyor and Newcourt a mapmaker, and it is possible that they were acquainted. In any event, both adopted similar schemes for laying out a city—the one for the rebuilding of an old, burnt-out one, the other for a new town to be constructed across the Atlantic. Newcourt and Holme, as well as the other post-Fire planners, celebrated the concept of a city of classic design with open spaces and wide streets. Both men were dealing with rectangular areas of approximately the same size: Newcourt’s, one by one and a half miles in extent, Holme’s, one by two miles. Both proposed to develop these areas by dividing them into blocks or squares of uniform size. Newcourt’s were the larger, measuring 855 feet by 570 feet, while Holme’s were 500 or 675 feet by 425 feet. The streets planned by Newcourt were a uniform eighty-feet wide. Holme projected two principal thoroughfares, one east and west, the other north and south, each 100-feet wide. All parallel streets were to be


\(^{16}\) *Ibid.*
From Thomas Holme’s Map of Philadelphia, 1683
fifty feet in breadth. In the matter of street widths, Holme seems to have followed Evelyn.

In Pennsylvania, where the problems of siting and laying out a town were considerably less complicated than those encountered by the Commissioners trying to put post-Fire London together again, the planner's design, in this case Holme's, could be followed more precisely. His plan called for straight streets meeting each other at right angles; for a center square of ten acres around which were to be grouped “Houses for Publick Affairs”; and in each quadrant another square of eight acres to be kept open for the public's enjoyment. The planned design for the streets, their width, the size of a city block, and the five public squares remain today, silent witness to Penn's intentions and Holme's plan. Philadelphians have made them over but they have not obliterated them. Maps, deeds, and survey records for even so small a segment of Philadelphia as that bounded by Water, Second, Market and Arch streets show the divisions and subdivisions that had taken place by the 1690s. Cartways split the larger blocks, and alleys gave access to courts hidden behind the buildings facing onto the principal streets.

Lots in Philadelphia were assigned in accordance with the size of the First Purchaser's undertaking elsewhere; so, too, was his grant of property in the Liberty lands outside of the city proper. There the grants would provide for country estates or gentlemen's seats. This in all probability added the green to Penn's town, since the city itself was obviously not large enough to provide within its limits room for estates, and for the houses, shops, and warehouses of the merchants, craftsmen and others on whose wellbeing the growth and prosperity of Philadelphia depended. One cannot but wonder whether Penn with his stated concern for the creation of a healthful town had in mind John Evelyn's little tract, Fumifugium. Evelyn, a seventeenth-century clean air advocate, proposed making London and Westminster garden cities. He thought London's

18 “To the Mayor, Recorder Aldermen Common Council and Freemen of Philadelphia This Plan of the improved part of the City surveyed and laid down by the late Nicholas Scull, Esq. Surveyor General of the Province of Pennsylvania is humbly Inscrib'd by The Editors.” This was published in 1762 by Matthew Clarkson and Mary Biddle; see also records of the Third Survey District, City of Philadelphia, 71 Div 3 Y and 72 Div 3 Z, in Philadelphia City Archives, City Hall.
greatest enemy “that Hellish and Dismal Clowd of Sea Coale . . . so universally mixed with otherwise wholesome and excellent Air.” He deplored the sulphurous smoke “under which flowers die, fruits . . . fail to reach maturity . . . and the very inhabitants are so affected . . . that Catharrs, Phthisicks, Coughs and Consumptions rage more in this one Citty than in the whole Earth besides.”

Possibly borrowing from London’s Rebuilding Act of 1667, Penn ordered his commissioners to finish surveying all the streets in Philadelphia before assigning any land to any purchaser. The Rebuilding Act had stipulated that no one might rebuild his house after the Fire until the survey of streets and property lines had been completed. In both cases the regulation was devised to make sure that the streets would be maintained at agreed upon widths and along agreed upon lines without having to deal with or arrange for the removal of illegal encroachments upon these rights of way at some later date.

Post-Fire London had made an important alteration in the city’s appearance by establishing the principle of building lines, a commonplace notion to us but a relatively new idea in seventeenth-century England. Streets were planned as streets and given precise dimensions, and property owners were not allowed to diminish these by extending their houses or shops, or by building any part of either out beyond the legal building line. Jutties, the medieval overhangs; bulks, stalls or other projecting framework in front of shops; and widely overhanging shop signs were expressly forbidden by the Act. In this law we find, almost surely, the origin of Penn’s determination to have Philadelphia houses “built in a line, or upon a line.” Thus he created a modern city. The results of his decision show in Birch’s engraving of Philadelphia’s High Street with the houses marching in orderly rows like well-drilled soldiers.

As in London, jut windows and bulks were forbidden by law in Philadelphia, first by Penn, later by city ordinances. Other encroachments—cellar doors, steps, porches—were also regulated. For

---

19 John Evelyn, _Fumifugium, or the Inconvenience of the Aer and Smoak of London Dissipated_ (1661), quoted in Priestley, 220.
20 Reddaway, 55–56.
example, cellar doors and steps could extend four feet three inches from the building line if the street were fifty feet wide. Otherwise their projection must decrease proportionately.  

22 Philadelphians had to worry about some types of encroachments upon the public ways that did not plague Londoners. One of these was the tree stumps and tree roots that Philadelphia householders were ordered by the Grand Jury in 1683 to clear away from the street in front of their properties. Writing in 1755, Thomas Pownall reported tree stumps still encumbering some city streets. Another encroachment local to Philadelphia was the awning. Dr. Alexander Hamilton, visiting the city in 1744, noted the custom of using awnings "of painted cloth or duck over . . . shop doors and windows" to create areas of coolness and shelter from the heat of the city’s streets. An ordinance regulated the height of these for the comfort of the passerby, decreeing that they must rise at least six feet four inches above the pavement at the lower, or gutter, end. Birch's print of the "Bank of Pennsylvania, South Second Street," showing its neighbor the City Tavern with an awning in place, and that tavern as presently reconstructed, demonstrate this Philadelphia amenity. A third kind of encroachment was the occasional enclosure of some or all of a street or road by a greedy property owner. Penn called this a "mischief that must not be endured." The process evidently continued, however, since some thirty years later, in 1719, the city council ordered Jacob Taylor "to run out the several streets of this city to the end," that is to the Schuylkill, and stake them out "to prevent any encroachment that may happen in building for want thereof." The concentration of Philadelphia's buildings along the Delaware probably made Penn's concern for maintaining straight streets throughout the city seem rather arbitrary. But to Penn, order was a first principle. As he said, "Tho' we came to a wilderness, it was not meet that we should continue it so."  

22 A Digest of the Ordinances of the Corporation of the City of Philadelphia; and of the Acts of Assembly Relating Thereto. Published Under the Authority of the Councils (Philadelphia, 1828), 181, hereinafter cited as Ordinances.  

London's Rebuilding Act had made the pedestrian's path easier and the carter's progress possible by keeping houses in rows of straight lines along the streets. It also gave a walker the added protection of posted walkways. Householders and shopowners were required to erect posts six feet out from the foundation of their buildings to keep foot traffic and wheeled traffic apart, and to pave the resulting footways at their own expense. Philadelphia made similar provisions for its citizens' comfort. Contemporary prints and drawings illustrate this, and the posted walkway in front of the State House on Chestnut Street recreates this eighteenth-century safety device. Pownall noted with approval the "trottoirs paved with brick" on each side of the Philadelphia streets. Philadelphia also experimented with what the twentieth century would call a pedestrian mall, closing off the market place with chains to keep carts and carriages from disturbing the shoppers.  

Both cities also attempted to preserve the innocent passerby from suffering a deluge of rain water by requiring proper guttering and adequate downspouts at the eaves of all houses. Philadelphia imposed a thirty shilling fine on householders whose gutters discharged large amounts of water in rainy seasons. Hogarth's prints, where street scenes provide the setting for the action, clearly show that in spite of laws a walker's passage through the city streets was always an adventure—if not rain water pouring from too full gutters, then slop jars emptied unceremoniously from upstairs windows made a safe journey remarkable. Hogarth's city was London, but there is no reason to believe that a pedestrian's progress in Philadelphia was any less hazardous.  

After the Fire, as part of the new regulations for "pitching and paving" the streets, London instituted a different system for handling run-off rain water. Instead of the old medieval way of sloping the streets to a "kennel" down the middle, gutters were

1948), 21; Ordinances, 183; Penn's "Instructions," dated 25 7th mo. 1689, in Pennsylvania Colonial Records (Harrisburg, 1838), I, 276; Minutes of the Common Council of the City of Philadelphia, 1704-1776 (Philadelphia, 1847), 170, hereinafter cited as Minutes. For London's restrictions, see Reddaway, 289.

24 Priestley, 211-212; Minutes, 150; Pownall on "trottoirs," in PMHB, XVIII, 212; Ordinances, 134-135, 209.

25 Ordinances, 181.
made at the kerb lines and the streets “paved round” in the way causeways were customarily handled. This scheme was not immediately adopted in Philadelphia (a council minute of 1693 mentions a “channel in the midst of Front Street”), but by 1719 the principal streets began to follow the London system. Philadelphia adopted not only London’s street design, but also the older city’s plan for implementing that design. In post-Fire London, authority for street paving, for the regulation of street levels and for street cleaning was entrusted to a single body, the Commissioners of sewers and pavements. Four men, called Regulators rather than Commissioners, had similar duties in Philadelphia. Preventing paving from disintegrating under heavy traffic was another problem requiring official action in both cities. Iron tires on cart wheels, and carts carrying excessive loads were not infrequent subjects of local ordinances. As time went on and traffic increased, Philadelphia had to come to grips with other traffic problems: by 1790 parking was limited to two hours in specified places; drivers were to keep to the right on two-lane roads and provisions for passing in the narrower streets were established; speeding was frowned upon, no galloping of carters’ horses was allowed; and carters were forbidden to park across walkways and so obstruct the passage of others. By the early 1800s, places where carts or carriages “waiting for employ” might stand were designated, and all standing vehicles were required to stay ten feet away from “each side of each and every pump.” Wagons were licensed and registration numbers were affixed to each cart.

Two projects instituted by the authorities responsible for the rebuilding of London have received praise from twentieth-century writers on city planning, even though both projects failed. The one was the proposal for the Fleet Canal; the other, the design for the Thames Quay. Both had echoes, albeit rather faint echoes in Philadelphia. The Fleet Canal was primarily a utilitarian proposal. Wren,

---

26 Reddaway, 291; Priestley, 211-212; Pa. Col. Recs., I, 342; Minutes, 98, 414; Pennsylvania Gazette, June 20 and Nov. 14, 1771, and Dec. 2, 1772.
27 “An Additional Act for the better Repairing of Highways and Bridges” (1670), Statutes, III, 346-348; Reddaway, 286. Philadelphia ordinances “for better securing of the new pavements in this city” were passed as early as 1718 and regularly thereafter. Ordinances, 14-15, 21-23, 27; Minutes, 150, 155, 156, 163, 165, 172.
whose idea it was, suggested the canalization of the Fleet River to make a forty-foot channel navigable from the Fleet's junction with the Thames up to Holborn Bridge—a distance of about three-sevenths of a mile. The Canal was to be faced partly with timber, partly with brick, to be flanked by thirty-foot wide wharves, and to have a line of houses fronting each wharf. Dutch cities with their canal systems were the apparent source of Wren's ideas. Unfortunately, the Canal was a failure, partly because of the rubbish and silt that kept coming down it from beyond the City limits which blocked the channel, partly because of the citizens' negligence, and partly because of natural difficulties created by underground springs. The final blow to the Canal was London's ever increasing wheeled traffic, as carts and coaches constantly broke up the pavement of the wharves. In any event, water traffic was declining and the need for a road between Holborn and the Thames was becoming greater than the need for a waterway. As a consequence, in 1733 the Canal was arched over from Holborn Bridge to Fleet Bridge and the wharves were made into roadways. In 1766 the lower reach was also covered. Today, as traffic moves along Fleet Street, few travelers realize that the Fleet River flows beneath them.

The development of the Dock in Philadelphia by Thomas Budd, who had proposed, in return for the grant of some land that he coveted, to cut a channel twenty feet wide and deep enough to allow "a good sloop" to go upstream to the bridges, which he would also build, and to provide for housing and warehousing along the banks of this water course is suggestive of Wren's proposal for the Fleet. Appropriately enough, both streams eventually shared the same fate, being arched over and made part of the street systems of their respective cities before the end of the eighteenth century. Prior to this being done, however, both had earned an unenviable reputation as noisome sewers.

The plan for the Thames Quay was also part of Wren's scheme for rebuilding the city. The old London waterfront, with its jumble of public landings, wharves, and lay stalls had shocked Charles and

29 "Warrants and Surveys of the Province of Pennsylvania, 1682–1759," II, 18–19, and III, 262, City Archives.
his courtiers when they returned to England upon the restoration of the monarchy in 1660, accustomed as they then were to the more attractive waterfronts of Dutch cities. Here, too, the ravages of the Fire seemed to offer opportunity for improvement. A draft of a plan was agreed to that would have given the Thames, from the Tower to the Temple, open space, a paved quay extending forty feet back from the north side of the river, and would have glorified the whole with a row of dignified houses. The legal basis for this was fixed in the second Rebuilding Act of 1670. As originally proposed, the Quay would have been developed with public, that is, with City, money. City funds being scarce, private development with certain restrictions was agreed to. The undertaking, however, proved too costly and perhaps too imaginative for Londoners to underwrite and the project failed. A look at the present embankment between the Blackfriars and Westminster bridges gives some idea of the order Wren had hoped to bring to seventeenth-century London’s river front.30

Did Penn’s initial reluctance to lease Philadelphia’s Bank lots arise from a hope that he could continue to exercise sufficient control over the Delaware waterfront to create there an embankment and promenade of the sort that Wren had planned for the Thames? James Logan, Penn’s secretary, hinted at this and Penn himself made some stipulations in his leases that suggest such a conclusion. According to the terms of his first lease of Bank property, in 1684 to Samuel Carpenter, Carpenter was required to build a thirty-foot wide cartway the length of his property “under and along the front of the said Bank for the common use,” a feature repeated in subsequent leases. Further, limits were set on the distance his wharf could extend into the Delaware, on the height of buildings to be erected on the wharf (apparently they were not to block the view from the top of the Bank), and Carpenter was also required to build stairs from the River to the wharf and from the wharf to the top of the Bank. Stairs from river to quay were also a feature of the London plan. Carpenter’s thirty-foot way became Water Street, and Philadelphia’s waterfront became thoroughly utilitarian as

other merchants followed Carpenter's lead and acquired and developed Bank lots31 with commerce, not pleasure, in mind. One of the original features, the stairs from Water to Front Street, became fixtures of Philadelphia's riverfront from the seventeenth to the twentieth centuries. Those at Cherry Street remained until a few years ago when they were demolished for Interstate Route 95.

Provisions for markets, city water, and the handling of refuse were made by both cities, although Philadelphia as the younger and smaller metropolis made do with less sophisticated arrangements than London employed. Markets in pre-Fire London were in the street, partly out of tradition, partly because of lack of space in the prescribed market place. After 1666 buildings were provided for the market people. Philadelphia lacked any sort of market house until 1708. Thereafter, until the middle of the nineteenth century, the city's markets were either in the street or under open structures of the kind still standing at Second and Pine Streets. The similarity of Philadelphia's market buildings and the one pictured in a 1747 engraving of "A Fleet Wedding" is immediately apparent, and not only in the design of the sheds. The market proper ends in a cupolaed structure, even as does Philadelphia's New Market, and is placed, as is the latter also, in the middle of the street.32

London had city water from 1613, but Philadelphia relied on public pumps and private wells until the 1790s. The so-called public pumps were considered to be the property of the "person or persons erecting the same, who shall keep them in repair at their own cost and receive such rents from the neighborhood for the drawing of water as they can agree for, provided that before any person ... do break the ground for such pumps, the place be viewed and allowed by the Mayor & Recorder & at least three aldermen." Owners of these pumps were privileged to hold them for twenty-one years,

31 For the agreement between Penn and Carpenter, see Roach, "The Planting of Philadelphia . . .," PMHB, XCII (1968), 176-177. A survey of Water Street, Market to Arch in the records of the Third Survey District, 72 Div. 3 Z, City Archives, notes the names of nine men with Bank lot patents within this one block: Samuel Richardson, Griffith Jones, William Carter, Robert Longshore, Henry Wood, Benjamin Wilcox, Thomas Story "for the London Co.," and Robert Turner.

paying a shilling in annual rent to the Corporation. A number of ordinances were passed during the eighteenth century with the object of preserving a pure water supply for Philadelphia. Some of these limited the depth of vaults, wells, and sinks for privies; a fine of £20 was levied for exceeding that depth, and a later law required that necessaries be at least two feet from property lines in order that neighbors' water supply would not become contaminated. The disposal of refuse from distilleries, soap boilers' works, and slaughterhouses was also carefully regulated to the same end.33

The disposal of solid waste, to use a present-day term, has long been an urban problem. London had her lay stalls, many along the Thames wharves, where they polluted both the Thames and the air. Philadelphia with plenty of open space handy apparently did not set up any equivalent facility, but, as in London, ordinances regulated the rounds of scavengers and prohibited the throwing of refuse anywhere but in agreed upon places. Usually refuse was to be kept on the owner's property from whence the scavenger might collect it when he made his weekly rounds. No record has been found thus far of where the scavenger took his full cart.

London had been rebuilt without benefit of fire insurance. The idea of protecting the property owner from loss by fire was proposed in the 1630s but until the Great Fire made all too clear the need for such protection, the proposal languished. Subsequently, Nicholas Barbon, a developer of large tracts in what were then London's suburbs, established the first insurance agency, the Fire Office, in 1680. Both term and perpetual insurance were available, with term insurance being offered to a tenant for the duration of his lease. Rates were given at sixpence a pound for brick houses, double that for timber ones. (The Friendly Society, which began to issue insurance in 1684, defined as a timber house any that did not have a masonry party wall.) Payments to those insuring with the Fire Office were guaranteed by the ground rents on Barbon's Strand properties, which would, he said, be sufficient to cover the losses on 3,000 houses. Other companies soon followed, among them one called the Amicable Contributors, more generally known as the

---

Hand in Hand from its badge showing two clasped hands. The nickname and an adaptation of the design of the badge crossed the Atlantic to Philadelphia when the Philadelphia Contributionship was organized in 1752 and a similar, although not identical, device was adopted to denote houses protected by that company's insurance. The Philadelphia Contributionship borrowed more than its device from the Amicable Contributors: in particular, the plan for insuring a property for a seven-year term only; the restricting of the geographical area within which insurance would be sold; and by providing for the insurance of parts of large buildings under separate policies, a consequence of the limit set on the amount of insurance available under any one policy. It was not until 1793, almost a hundred years after Lombard House began insuring Londoners moveable property, that insurance of that kind was made available to Philadelphians by the Insurance Company of North America.  

Both cities had laws requiring citizens to equip themselves with elementary fire fighting aids—buckets, hooks, and the like. Both had regulations regarding chimney fires. Philadelphia bought her first fire engine, the property of the Corporation, with money collected in fines for blazes in chimneys. The city's first fire company, the Union, was organized in 1736 by Benjamin Franklin. Both cities made rules for the storing of especially hazardous materials—gunpowder, hay, and chemicals. Philadelphia had special requirements for the building of bake houses and coopers' shops. In both cities, the mayor had, as the Philadelphia council minutes put it, "power to manage and direct at all fires." As a matter of fact, London's mayor at the time of the Fire has been much criticized both by his contemporaries and by later writers for his slowness to react to London's emergency. Apparently he hesitated to order the pulling down of houses to make a fire break in fear that some of these might belong to a powerful citizen and he be brought into account for his action. Pepys called him a "silly man." One final note on fire prevention. From the sixteenth century on, Londoners were required to provide an iron reredos for each fireplace in their

34 Priestley, 229-231. A number of broadsides and pamphlets relating to the establishment of fire insurance companies in London, including An Abstract of the Settlement of the Amicable Contributorship or Hand-in-Hand Fire Office . . ., are in the North Library, British Museum.
houses. Here is the predecessor of Philadelphia’s ubiquitous, ornamental, and useful fireback.\textsuperscript{35}

So much for the planning of Philadelphia and the laying out of its streets and squares, as well as for some of the less visible debts Penn’s city owed to England’s capital. Now for a look at the kinds of structures that stood “in a line” beside the streets of both cities, buildings whose structural standards were defined for London by the first Rebuilding Act of 1667.\textsuperscript{36}

In pre-Fire London, the larger and more pretentious houses were generally built with heavy timber frames, filled in with lath and covered with plaster. The poorer houses were of weather board attached to timber framing. Overhanging upper stories, stalls, and projecting shopfronts were everywhere.\textsuperscript{37} After the Fire, and in accordance with Charles’ proclamation of September 13, 1666, and with the provisions of the Rebuilding Act of the following year, all new London houses were to be of brick or stone. Not only the materials of construction, but the size and placing of London’s new houses were regulated in detail by Parliament’s rebuilding acts. Owners were not permitted to build anything until their plans had been approved by the central authority.\textsuperscript{38} Houses were to be of fixed types, and the character of the street determined the kind of house that could be built along it: two-story houses fronted “By-Streets and Lanes”; three-story houses faced “Streets & Lanes of Note and the River Thames”; four-story houses stood along “High & Principal Streets”; and a fourth type, mansions for merchants, also to be four stories tall, were not designed to be placed directly on the street, but back from it in their own grounds. (Clarke Hall at Third and Chestnut Streets, and the much later Bingham mansion at Third and Spruce were among the rare Philadelphia examples of this fourth category.) The height of the rooms on each floor, the thickness of the brick walls from cellar to attic and from facade to party wall, the dimensions of the scantlings, the beams,

\textsuperscript{35} Priestley, 153, 230-231; Minutes, Nov. 22, 1708, Nov. 13, 1711, and July 22, 1712, pp. 57, 78, 79; Ordinances, Feb. 6, 1730/31, Feb. 9, 1750, and Apr. 18, 1795, pp. 2-3, 20, 49, 84.

\textsuperscript{36} John Summerson, Architecture in Britain, 1530-1830 (Baltimore, 1963), 122; “An Act for the Rebuilding of the City of London,” Sec. III, and tables for scantlings and other materials to be used, included at the end of that Act, in Statutes, III, 310-311.

\textsuperscript{37} Reddaway, 284.

\textsuperscript{38} Priestley, 189.
rafters, girders and laths are spelled out for each type.39 The Act also provided for "Knowing and Intelligent persons to inspect the work."40

Although Philadelphia was not careful to keep small houses to by-streets and big ones to major thoroughfares, as a glance at any of the eighteenth-century views of the city makes clear, in other ways the Philadelphia house generally conformed to the London regulations. Even the little houses had cellars, but, instead of having the brick foundation walls decreed by the London law, Philadelphia dwellings sat on stone. (Pennsbury is possibly the only house local to this area with brick foundations.) Insurance surveys for Philadelphia note the thickness of both facade and party walls in inches. Usually fourteen- and nine-inch walls are recorded for eighteenth-century structures. London's Rebuilding Act measured these by bricks, requiring a two and a half or a two-brick thickness for foundation walls; one and a half or two bricks for facade walls up to the attic, one brick above. Party walls were usually one and a half or one-brick thick. An interesting difference in the building practices of London and Philadelphia might be noted, that is the different method of constructing the party wall. London's law required that an owner who was building his house before his neighbor was ready to start must "tooth out" the party wall so that these teeth, which were projecting bricks, could be used to tie the walls of the later house to the one first built. In Philadelphia, instead of toothing out a party wall, provision was made by ordinance to allow a later builder to cut into the wall of his neighbor's house, with the first builder to be repaid "one moiety" of the cost of that part of his wall being used by his neighbor. The proper charge for this was determined by regulators appointed by the Mayor and Commonalty, and the charge was directed to be paid before the new building was begun.41

The records of the Third Survey District of Philadelphia are

39 Reproduced in Reddaway, opp. p. 80. It was estimated that £400 would be needed to build a four-story house; £300 to erect one of three stories, ibid., 274.
40 Priestley, 190.
41 Reddaway, opp. p. 80; Minutes, July 22, 1712, p. 79; Ordinances, Feb. 24, 1721, p. 220, and a re-enactment of this latter, Apr. 15, 1782, because this "useful law" had become "dormant" during the Revolution, ibid., 221.
full of evidence of Philadelphians' entanglements with the problems of party walls. These range from a simple note of the sale of the appropriate moiety of a party wall, or of the value put upon a party wall by the regulators, to legal opinions given when owners of adjoining properties could not come to an agreement about who owned what. Matters were sometimes complicated in this old section of the city because not all party walls were of masonry construction. If this was known, as it was in the case of a "framed house" on the west side of Front Street above Market, once the property of Abram Bickley, no difficulty ensued. Here the wall had been recorded as being "2 inches plaistered." Generally, partition walls were assumed to be brick and nine-inches thick, with four and a half inches belonging to each of the adjoining properties. If, in fact, the party wall was frame and its construction unknown to its owners, arguments were sure to arise, since the deed measurements and the "boundaries" of the existing buildings would not coincide. 42

With house plans, floor heights, and building materials prescribed, London owners and their architects would appear to have been deprived of any opportunity for originality. However, by clever use of ornamental rubbed brick, stone ornamentation, balustraded balconies, band courses of brick to mark the floor levels, and decorative wooden cornices, Londoners were able to avoid monotony. So, too, were the Philadelphia master carpenters who made use of the same devices. A typical London house of the 1670s would have looked much like Philadelphia's Powel house of the 1760s. Both had sash windows, all of one size for the principal stories, as well as external ornaments, including key blocks above the windows, band courses to mark floor levels, modillion eaves, handsome wooden door cases,

42 Mrs. Dorcas Montgomery's party wall, used by Solomon Montgomery when building his house adjoining in 1794, was valued as follows: Cellar wall and part of fence wall foundations £20.15. 6
Brick wall 77.12. 6
£98. 8. 0
half the value of s4 wall £49. 4. 0
For the problem created by unsuspected frame party walls, see "Opinion by Horace Binney: Party Lines Regulators are to be governed by boundaries and not by distances where boundaries and distances conflict"; and another incomplete manuscript in the same file noting the resolution of the difficulty once the buildings had been torn down and the true state of affairs disclosed. Records Third Survey District, 71 Div. 3 Y.
and fanlights. Larger houses, those with five or seven bays across the front, frequently had the center portion "broken forward" and pedimented, as at Cliveden and Mount Pleasant. The pent eave was common to both London and Philadelphia, as was the door hood like that adorning the Letitia Street house in Fairmount Park.43

In interior plan, the London house had a front room and a back room on each floor, a staircase and passage at one side, and a small projection at the rear for a closet or small room. The main difference in plan between the houses built in the two cities was the absence from London houses of Philadelphia's back buildings, a feature that was dictated by the latter city's long narrow lots. In Philadelphia, the small projection of the London house developed into a piazza and housed the principal staircase. It also served as a connecting link between the front house and the kitchen wing. A final difference, one probably caused by the Philadelphia climate, was the use of exterior shutters, seen everywhere in Philadelphia and apparently totally absent in London. The deficiencies of the Philadelphia watch, noted in a council minute for January 28, 1742/3, may also have contributed to the homeowner's interest in providing his house with heavy paneled shutters, particularly at the street level.44

Until some years after the Fire, speculative building in London was a small-scale operation carried on by craftsmen usually working on no more than two houses at a time. Records in the Philadelphia Historical Commission show that much of Philadelphia was developed in just this way until well after the Civil War. However, in the 1680s, Nicholas Barbon, the same man who had started London's fire insurance business, began to acquire large plots of land and build whole streets of houses at one time. Essex Street, the Strand, and Red Lion Square are examples of his enterprise.45 Philadelphia's first documented housing development on anything like this scale came more than a hundred years later with the rows built for William Sansom on Walnut and Sansom Streets between Seventh and Eighth. These were followed early in the nineteenth century by

43 Priestley, 190; Summerson, 227.
44 Ibid.; the word "piazza" was regularly used to describe stair halls of Philadelphia houses by surveyors for that city's insurance companies; for comments on the watch, Minutes, 418–419.
45 Summerson, 90, 227.
Robert Mills's Franklin Row, of which 226 South Ninth Street is the sole remaining house; the later and more fortunate Portico Row on Spruce Street; Haviland's Colonnade Row, demolished 1868; and Sloan's Woodland Terrace, the least changed of all, since it has, for the most part, continued in single family occupancy.

At no time in the eighteenth century did Philadelphia develop a residential square like London's Cavendish Square of the 1720s. In one important respect Philadelphia never did produce a square of this kind. Franklin, Washington, Rittenhouse and Logan squares were ringed with houses during the nineteenth century, but the squares themselves, the open space, remained city property, and as public places the squares were not fenced and equipped with locked gates to make the pleasant green a preserve for the fortunate few.

After the accession of George I, English architecture began to develop a new style, or rather, to go back to an old one, the Palladian, formerly introduced to London by Inigo Jones in the 1630s. Philadelphia architecture, on the contrary, retained its late Stuart flavor throughout the colonial period. It was not until after the Revolution that features of Georgian design, using the term in the British sense, began to appear in the Pennsylvania city. This new Georgian architecture often gave special treatment to the principal or second story; the windows were larger, the facade sometimes defined by columns or pilasters, and the masonry surface often different from that found at the ground-floor level. In Philadelphia this style was more likely to be used for public buildings—in the center block of the Pennsylvania Hospital, or for Thornton's Library Company building, or for commercial ventures like Cooke's building at Third and Market Streets—than it was for private houses. The Hill-Physick house and Henry Pratt's Lemon Hill are exceptions, with their fine leaded glass fanlights, and the elegant classical mantels and simple wood trim of their interiors, interiors that were in marked contrast to the elaborate paneling of the earlier Powel house and Mount Pleasant. The Bingham mansion at Third and Spruce was a more complete example of the new style,
but of extant structures, the Woodlands, rebuilt to its present form by William Hamilton c. 1788, with its two-story monumental portico on the south front, its use of flat pilasters to define the north facade, and its semicircular bays, is Philadelphia’s best example, both inside and out, of the new style in domestic architecture.

Penn’s city grew and prospered. By mid-century one could find great houses built for its merchant princes, like the Abercrombie and Neave houses on South Second Street, smaller houses like those on Delancey Street, court houses and artisans’ houses like those in Elfreth’s Alley and Fitzwater Street, and country houses like James Logan’s Stenton and Benjamin Chew’s Cliveden. Philadelphia had two flourishing suburbs: Southwark, maritime in character with its shipyards, rope walks, and sailmakers; and the Northern Liberties, with a large German population and, even then, tending toward industrial development with brickyards, potteries, and breweries. In Germantown, Philadelphia had a satellite town, with its own flourishing institutions and its own particular industries.

The outward movement of cities, noted by Lewis Mumford and noticed in London as early as 1619 by the Spanish ambassador to James I’s court, was accelerated in that city as the great estates beyond the City walls were developed during the seventeenth and eighteenth centuries. This brought predictable results, turning the once great houses of the older areas into tenements or allowing their replacement by rows of smaller dwellings designed for shopkeepers or workmen. The rebuilding of the Strand after the Fire is a case in point. Nicholas Barbon, the entrepreneur in that instance, was the equivalent of the modern developer. His eye was on his personal gain, and he rationalized his activity as progress, as creating jobs for workers and houses for those in need of them. This kind of redevelopment of older streets whose cachet was fading does not become an important part of Philadelphia’s story until the early nineteenth century. Then, between 1810 and 1830, it proceeded at a fairly rapid pace. The Franklin heirs were responsible for the re-

doing of Franklin Court; Stephen Girard purchased John Cadwalader's property on South Second Street and replaced the Cadwalader mansion with smaller dwellings; the Dickinson house, Judge William Coleman's house, the Archibald McCall house and other large but by that time unfashionable structures were remodeled or replaced by new owners seeking the most profitable uses for their land. Whole areas were rebuilt, with commercial structures replacing domestic ones as Philadelphia began to develop its "downtown."

Changes in the use of buildings with the development of new areas west of the State House did not bring any radical change in the appearance of the city's streets. Philadelphia remained a red city, with the chief ornament of its houses the white collar and cuffs of steps, lintels, and sills that Ellen Terry was to notice decades later. Another perceptive lady, Sophie von la Roche, the wife of a German nobleman who visited London in 1786 described that city thus: "Buildings . . . simple but lofty, always sensible. . . . The houses are mostly brick, and have no decoration other than big well-kept windows, whose panes are framed in fine white-painted wood."

She might have been talking about Philadelphia.

Philadelphia

Margaret B. Tinkcom

50 Nicholas B. Wainwright, Colonial Grandeur in Philadelphia: The House and Furniture of General John Cadwalader (Philadelphia, 1964), 76; Philadelphia Historical Commission files on these and other similar properties.