An Investigation of the Sources, Stylistic Evolution, and Influence of Asher Benjamin's Builders' Guides

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

By

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1950

Approved by:

[Signature]
Advisor
THE COUNTRY BUILDER'S ASSISTANT:
—CONTAINING—
A COLLECTION OF NEW DESIGNS OF CARPENTRY AND ARCHITECTURE;
Which will be particularly useful, to Country Workmen in general.


CORRECTLY ENGRAVED ON THIRTY COPPER PLATES;
WITH A PRINTED EXPLANATION TO EACH.

BY ASHER BENJAMIN.

PRINTED AT GREENFIELD, ( MASSACHUSETTS )
BY THOMAS DICKMAN.
M, DCC, XCVII.
Architectural knowledge in eighteenth century America was transmitted to the Colonial builder in only two ways: by the master-apprentice relationship and by the imported "builders' guide," so-called, a compendium of designs and practical building information. Following the federation of the United States in 1789 the young Republic became increasingly conscious of her new role as an independent nation. While she remained strongly rooted to the cultural soil of Europe there was a growing demand for American solutions of American problems and a healthy exploitation of her own native genius. In architecture this period marks the publication of the first native American builders' guide by a rural Connecticut River Valley architect, Asher Benjamin. The present study undertakes a thorough investigation of the seven works which he published, the sources of his style, the character of his work and its stylistic evolution, and finally his influence upon American architecture.

The last edition of any of Benjamin's works was published between 1858 and 1862. From that time to the end of the nineteenth century, during a period of eclectic styles in which the Greek forms popular in his later works had but little place, Benjamin's name was virtually forgotten. Frank J. Roos has traced briefly in his *Writings on Early American Architecture* (Columbus, Ohio: 1943) the gradual development of antiquarian interest in our American archi-
tectural heritage beginning with the later nineteenth century. In its earlier stages the interest was almost entirely confined to the "Colonial" styles of the seventeenth and eighteenth centuries, but as time placed new distance between the historian and his immediate background and as critical scholarship grew apace the areas of study were expanded. George Clarence Gardner in his articles on Colonial architecture in western Massachusetts, published in the American Architect and Building News in 1894, was perhaps the first of the modern architectural historians to rediscover Benjamin. His brief discussion of both the architect's first handbook and executed designs stretches the strict limits of the Colonial beyond 1776 into that later eighteenth century period sometimes referred to as Post-Colonial. He does not, however, include any comment upon Benjamin's work beyond the year 1800. It remained for Montgomery Schuyler to break through the barrier of Colonial study with the publication in 1910 of a work on the Greek Revival. Seven years later in 1917 the architect-historian, Aymar Embury II, fully recognizing Benjamin's importance in the spread of first Early Republican (or Post-Colonial) and then Greek Revival forms published a full sampling of plates from all but his last two works. Despite the absence of any critical text, contemporary reviews reveal that Embury's effort was well spent. From that time to the present Benjamin's importance has been increasingly recognized by architect and historian alike. The Dictionary of American Biography includes
a brief account of the high spots in his life and Henry-Rus-
sell Hitchcock's bibliography of early American builders'
guides gives a complete listing of all his publications. Of
the articles appearing in the American Architect, Antiques,
House and Garden, Architectural Record, and Architecture,
only single aspects of his work have been emphasized while
any broad or comprehensive study, if attempted at all, has
been cursory in the extreme.

Of the man himself, little is known. Few documents
have survived, and he often hid behind his own writings in
such a way that his true character does not easily emerge.
Any purely biographical study, therefore, has been set aside
as incidental to the subject under discussion. A thorough
investigation of Benjamin's life and his actual architec-
tural practice is currently being carried on by Mr. Edward Cas-
well Perry of Framingham, Massachusetts. It is the hope of
Mr. Perry and the author of this dissertation that their
joint labors may be merged eventually to form a complete and
definitive history of Benjamin's life and work.
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Introduction

"Exult, each patriot heart! - This night is shewn
A piece, which we may fairly call our own. . . ."¹

Thus does Royall Tyler, our first American playwright, in the prologue of his first American play in 1787 declaim a fit prologue to that period in which the young Republic explores for the first time the rich resources of its own native genius. With the enactment of the Constitution in 1789 the United States became singularly alive to the role which they had accepted as an independent nation. The casting off of British allegiance was responsible, too, for a freer in-pouring of opinion from France, Germany, and Italy, invigorating every branch of life. To the achievements of the English inventors who were largely responsible for the Industrial Revolution were added now the dynamic impulses given to social thinking by French concepts of progress and the accumulating triumphs of natural science to which all European countries contributed. The last decade of the eighteenth and the opening years of the nineteenth century are strongly flavored with a buoyant optimism and faith in the future of America which led to the unstinted development of natural and industrial resources, to the widespread absorption with the functions of the newly created government, to the stimu-

lution of the American mind in the direction of invention and individualistic thinking, and to the formulation of new concepts of America's role in the arts. To some this role was conceived of as enthusiastic devotion to native traditions and unwavering independence of action. The architect Robert Mills declared:

'Our artists . . . should never forget the original models of their country, neither the customs nor manners of their people, when they execute works of art either for their government or for their fellow citizens. . . . I say to our artists: Study your country's tastes and requirements, and make classic ground here for your art. Go not to the old world for your examples. We have entered a new era in the history of the world; it is our destiny to lead, not to be led. Our vast country is before us and our motto Excelsior.'

To others, particularly the mercantile class along the Eastern seaboard who felt that the strength of their order depended on close relations with England, this forthright self-reliance was by no means wholly appealing. But there were few so small in mind, as Charles Beard remarks, "that did not now grasp some concept of national destiny associated with the federal union."

The political note rang with startling clarity through the architecture of the Early Republican era as well. The patriot fathers, like the contemporary leaders of the French

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republic, returned in their dreams, their oratory, and their architecture to the glories of republican Greece and Rome. The interest focused on Rome and upon Renaissance architects who had resurrected and refurbished the classic orders provided the builders of the late eighteenth and early nineteenth centuries with rigid models which often made but slight concession to unique materials and conditions in America. Yet within the broader architectural framework, while buildings themselves may have remained largely derivative of European styles, there was a genuine demand for men who could interpret in an individual and American sense the architectural needs of the young Republic.

The expulsion and flight of English official classes - the governors, army officers, judges, and retainers of every sort - raised to a prouder estate the second stratum of American society - the merchants, yeomen, planters, and farmers, "and in the general upward heave mechanics soon found their way higher in the scale of things." As the mechanic moved forward so do we find, too, that the master-builder - the erstwhile contractor-carpenter who designed and builded without glory - advanced in rank and emerged now as the full-fledged architect. It would be difficult to give an exact definition of the master-builder. In the average eighteenth

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century rural community he could lay claim to the most extensive vocabulary of building information, gleaned from long practice as the community's chief consultant in architectural matters, from his own actual building experience, from English publications, and from that indefinable fund of imaginative interest which had led him into this calling rather than any other. He could exercise his title of master-builder only after having proved his worth through a long apprenticeship and a good round measure of what the early writer liked to call "diligent application." His profession was considered little more than just a craft, and often he fared no better in the eyes of his public than the miller or tanner.

In the eighteenth century American city, and occasionally in the country town as well, the master-builder was more apt to be recognized with something akin to civic pride. In such cases his name has come down to us by dint of a more appreciative respect on the part of his contemporaries. Judah Woodruff (fl. 1775) of Farmington, Connecticut, is one such example. Lavius Fillmore (fl. 1805) of Bennington and Middlebury, Vermont, is another. The architect as we know him today, however, does not appear till the very end of the eighteenth century. "The time has been, within my own recollection," wrote Asher Benjamin in 1833, "when New England did not contain a single professed Architect. The first individual who laid claim to that character was CHARLES BUL-
FINCH, Esq. . . . to whose classical taste we are indebted for many fine buildings. . . ." 5 Actually, Bulfinch was only one of a group of men whose appearance in this period following the Revolutionary War reflects the growing consciousness in American architecture. By the turn of the nineteenth century New York, Philadelphia, Washington, Charleston, and other coastal cities, as well as Boston, could boast of professional "Architects," - men who conceived of themselves primarily as designers. William Thornton (1759-1828), James Hoban (ca. 1762-1831), Benjamin Henry Latrobe (1764-1820), Pierre Charles L'Enfant (1754-1825), John McComb, Jnr. (1763-1853), and Stephen Hallet (fl. 1789-1796), though not all native born Americans, are representative of the emergence of the "Architect" from the relative obscurity of master-builders' identities in the earlier eighteenth century, and in their work reflect a new emphasis upon America's architectural independence.

The field of specialized architectural training, however, remained relatively undeveloped. There were as yet no architectural schools (though Benjamin himself was to found one a few years later, q.v.). Throughout the greater part of the country, especially in the rural areas, the time-honored apprentice system continued to be the only means by

5 Benjamin, Asher. Practice of Architecture (Boston, 1833), Preface, (unpaged).
which a prospective builder could master the art. Outside
the realm of tradition the most common source of information
and inspiration, important to both master and apprentice
alike, was the so-called builders' guide. These handbooks
of architectural knowledge, published in Europe and circula-
ted widely among both the landed gentry (who liked to think
of themselves as "gentlemen architects") and country build-
ers, played a vital role in transmitting to the Colonies
and to the young Republic the contemporary trends in Euro-
pean building styles and the latest information about new
building techniques. Even a casual inspection of our eight-
eenth century Colonial architecture bears stout witness to
the widespread use of these sources.

It is important, therefore, to make a critical study of
the more popular of these books which represented the Euro-
pean stock in trade of architectural ideas and which ultimate-
ly served as models for similar works to be published in the
United States once its national consciousness was aroused.
The majority by far were English, including English trans-
lations of foreign works. By 1800 there were relatively few
of the important Classical and Continental works on architec-
ture which had not been translated into English. As early
as 1663 the First Book on Architecture . . . from the pen of
the sixteenth century Italian master, Andrea Palladio, in-
cluding engraved plates of his work, had been translated by
Godfrey Richards, and was followed by Giacomo Leoni's trans-
lation from the Italian of The Architecture of A. Palladio in four books ..., published in London in 1715 - the edition of which America's best known gentleman-architect, Thomas Jefferson, owned copies. Similarly, in 1664 John Evelyn published a translation of the Sieur de Chambray's well-known comparison of the orders which he entitled a Parallel of the Ancient Architecture with the Modern ..., and by 1771 the English speaking architect had been provided by William Newton with the first translation into English of the first five books of the Roman architect Vitruvius' Ten Books of Architecture. The complete work, including a translation of the remaining five books, was published post-humously in 1791.

In the meantime the volume of native English architectural books had grown to impressive proportions. Of these we may differentiate four basic types. First were those formal publications exhibiting the designs of fore-ranking English architects, sometimes published by the architect himself. These were generally of handsome proportions, superbly engraved, and were to be found most often in the library of the gentleman-architect here and abroad who might at any time be called upon to execute the design for some prominent public building or expensive private home. Of such a character were Colin Campbell's Vitruvius Britannicus ... (London, 1717-1725), William Kent's Designs of Inigo Jones (London, 1727), and James Gibbs' Book of Architecture Containing


*Designs of Buildings and Ornaments* (London, 1728). Another volume of the *Designs of Inigo Jones and others* was published by Isaac Ware, probably for the first time in 1735, and in 1773-1778 appeared the *Works in Architecture* of Robert and James Adam. Thomas Jefferson, Peter Harrison of Newport, Rhode Island, architect of King's Chapel in Boston, and William Buckland, a builder of Annapolis, Maryland, owned copies of Gibbs and Ware, and many buildings both in New England and in the South whose designers are unknown bear witness to the frequent use of these works in the Colonies.

Somewhat less formal, smaller in size, yet fully within the scope of this first category were those works by architects whose names are less well-known, and whose designs are somewhat less magnificent, yet very much within a style which would appeal to the "gentleman architect"—particularly in the Colonies. Among these are William Halfpenny's *New and Compleat System of Architecture* . . . (London, 1749), Robert Morris' *Select Architecture* . . . (London, 1755), John Crunden's *Convenient and Ornamental Architecture, Consisting of Original Designs* (London, 1767), - Bulfinch owned a 1785 edition of this work, - John Soane's *Designs in Architecture* . . . (London, 1778), William Thomas' *Designs in Architecture* . . . (London, 1783), James Pain's *Plans . . . of the Noblemen and Gentlemen's Houses* . . . (London, 1783), and John Plaw's *Sketches for Country Houses, Villas, and Rural Dwellings* . . . (London, 1800).
In the second classification were those publications which made available to the builder or architect the memorable monuments of antiquity. While Antoine Desgodetz had published in Paris as early as 1682 an illustrated study of The Ancient Buildings of Rome (translated into English in the later eighteenth century), it was not until the mid-eighteenth century before increasing interest in archeology, fed by such events as the discovery of Pompeii and the reports of travellers abroad, was sufficient to maintain a steady flow of these publications of antique buildings. Among the first and by far the most important in its effect upon the later classic revival in America was James Stuart and Nicholas Revett's monumental four volume work, the Antiquities of Athens, the first volume of which was published in London in 1762. Of slightly earlier date was Robert Wood's Ruins of Baalbec ... (London, 1757), followed in rapid succession by Robert Adam's Ruins of the Palace of the Emperor Diocletian (London, 1764), Thomas Major's Ruins of Paestum (London, 1766), Nicholas Revett, Richard Chandler, and William Pars' Ionian Antiquities (London, 1769), William Wilkins' Antiquities of Magna Graecia (London, 1807), George L. Taylor and Edward Cresy's Architectural Antiquities of Rome (London, 1821-2), and several volumes of antiquities of both Ionia and Attica, edited and published by the Society of Dil-lettanti in London. Like the other works these antiquarian publications were received with much interest in America.
By 1770 the Library Company of Philadelphia had acquired copies of the first volume of Stuart and Revett's *Antiquities of Athens*, Major's *Ruins of Paestum*, and of Wood's *Ruins of Baalbec*, and Jefferson added both Stuart and Revett and Wood at a slightly later date.

In the third classification are those books devoted to formal architectural problems, particularly those dealing with the orders, in more or less essay form. Among the more familiar examples were James Gibbs' *Rules for Drawing the Several Parts of Architecture* . . . (London, 1732), and the *Treatise on . . . Civil Architecture* . . . (London, 1759) by Sir William Chambers. Chambers has been characterized in his architectural design as incapable of rising above the conception of "a square and unpoetic mass. . . ." But notwithstanding the *Treatise* was an undisputed classic for well over a century despite its lack of sympathy with the later popular Greek architecture. The extent of its popularity, perhaps, can be traced to the scholarly and all-embracing treatment of the classic system including a critical comparison of the orders as laid down by some of the foreranking architects of the Renaissance. Benjamin had access to a copy of this work, as we shall see, and drew upon it freely in his own works. In fact, Sir William may be looked to,

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perhaps, as author in far more than just a literary sense. In his early trips to China as supercargo in the ships of the East India Company he became very enthusiastic about the temples and gardens which he found there. These he transplanted in spirit to the gardens at Kew and to engravings which circulated widely in book form and which had no small effect upon the growth in England of interest in the Far East. Chippendale, famed furniture designer, was quick to catch the Oriental fever. While many of his contemporaries both here and in England remained more conservatively attached to their own occidental traditions the strong interest stimulated in the Far East was busily at work in the development of the Oriental trade which laid the foundations for more than one large fortune up and down the New England coast and helped to shape the prosperous era in which Benjamin lived and worked.

Following Sir William's lead additional treatises and essays continued to appear throughout the eighteenth century, revealing an increasing preoccupation with the architecture of antiquity. One such work, the *Rudiments of Ancient Architecture* . . . , whose author is unknown, published in a second edition in London in 1794, was also among those works to which Benjamin had access, while still another, Edmund Aik- en's *Essay on the Doric Order of Architecture* (London, 1810) furnished him with certain comparative tables on the Grecian
orders.

The final group of publications, the builders' guides or manuals, were by far the most popular in America. These handbooks contained a wide variety of practical information which would immediately appeal to the country builder. No one consistent pattern of organization was followed. They ranged from the purely theoretical to the merely mechanical in emphasis. Rules for drawing and proportioning the orders, practical geometry, designs for mouldings, details of windows, doors, balustrades, etc., staircase construction and design, and practical carpentry were among those features most commonly covered. Rarely these works were of dignified proportions such as for example Isaac Ware's *Complete Body of Architecture* . . . (London, 1735 ?) in which the more practical elements were combined with expansive textual explanations and a variety of architectural plans and designs. The more common builders' guides, however, often of pocket size, were interested in the less formal aspects of the profession. Many of the titles themselves - "The Builder's Companion," "The Builder's Pocket Treasure," "The Builder's Complete Assistant," - suggest the practical need they were designed to fulfill.

Works of this sort had appeared as early as the mid-seventeenth century when Stephen Primatt published his *City and Country Purchaser and Builder* (London, 1667), followed soon
after by Joseph Moxon's *Mechanick Exercises* . . . (London, 1694), both of which works may have been known in the Colonies. It was not until the early decades of the eighteenth century, however, that the English builders' guides increased in volume and began to be imported in any considerable numbers in America. Among the most popular of the early works were the publications of William Halfpenny and the brothers Batty and Thomas Langley. The large popularity of these and other builders' guides is well illustrated by the impressive number of editions through which each passed. Halfpenny's *Practical Architecture* . . . , for example, first published in London in 1724, had flashed through five editions by 1750.

Batty Langley is among the few English authors to have grown excited over Sir William Chambers' Chinese architecture, and his works include a variety of oriental detail together with "Gothick" designs "improved by rules and proportions."7 (No amount of romantic leaning, it seems, could wean the eighteenth century architect away from his essential classic training.) Among Langley's most popular books were *The Builder's Compleat Assistant* . . ., published in London in two volumes in 1738, *The City and Country Builder's Workman's Treasury of Design* (London, 1740), and *The Builder's Jewel* . . . (London, 1746). Another popular

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author of this same period, and one whose works were later republished in America, was William Pain. Remembered today largely as a key figure in the spread of the Adam brothers' "Roman" style in a carpenter's vernacular, his most popular works were The Builder's Companion . . . (London, 1759), The Builder's Pocket Treasure . . . (London, 1763), The Carpenter's Pocket Directory . . . (London, 1781), The Practical House Carpenter . . . (London, 1789), - much used by the architect Samuel McIntire of Salem, Massachusetts, - and by William and James Pain jointly, Pain's British Palladic . . . (London, 1785).

The most influential of the builders' guides, however, particularly in their effect upon American publications, were the works of Peter Nicholson, renowned architect-engineer. Few architects or engineers of the period could rival this largely self-educated stonemason's son in the wealth of invention which found its way into his voluminous published works. His life was devoted, writes one biographer, "to the improvement of the mechanical processes in building."8 He simplified many old methods and invented new ones and was the first to recognize formally, for example, that Grecian mouldings were conic sections. His rules for finding sections of prisms and cylinders, which enabled workmen to exe-

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cute handrails with greater facility and from less material than before, were perhaps his best known contribution to the science of architecture. Benjamin's whole treatment of stair construction and handrailing was based almost entirely on Nicholson's writings. The English author's books circulated widely in America and can be found as an influential factor in the works of nearly every single native American publication down to and even after the Civil War. Those which seem to have been most widely popular in this country include The Carpenter's New Guide . . . (London, 1792), Principles of Architecture . . . (London, 1795-8), An Architectural Dictionary (London, 1812-19), The New and Improved Practical Builder . . . (London, 1823), The Builder's and Workman's New Directory . . . (London, 1824), and A Treatise on the Construction of Stair-Cases and Hand-Railing (London, 1820). The Architectural Dictionary was a compendium in dictionary form of architectural matters from ancient times to the modern, ranging from definitions of the various parts of ancient architecture to practical problems centering around the latest advances in style and technique. By the end of the century this latter consideration had taken on a new emphasis, and we find the science of carpentry and principles of engineering coming to the fore. The titles themselves suggest this shift in emphasis, as for example in Thomas Tredgold's Elementary Principles of Carpentry (London, 1820). Tredgold's Practical Essay on the Strength of Cast Iron and oth-
er metals . . . (London, 1822) and Peter Barlow's Treatise on the Strength of Timber, Cast Iron, Malleable Iron, and other materials . . . (London, 1817), are almost exclusively devoted to these matters, and their authors, Tredgold and Barlow, ranked solely as engineer and physicist. These two men, though not closely related in their work, made the first serious attempt in England to determine practically and scientifically the data of resistance of timber and other materials. One might question whether or not these works fall even partially within the classification of builders' guides although it is interesting to note that in many of the later American builders' guides, to which we now turn, and in the works of Benjamin particularly these mechanical problems will receive an increasing amount of emphasis during the nineteenth century.
Chapter I

"Country builder's assistant"

It is not surprising, in view of England's almost exclusive monopoly in the field of architectural books, that the first American builders' guides should be republications of standard English works. The first of these, and consequently the first formal book on architecture published in America, was Abraham Swan's British Architect... first printed in London in 1745 and reprinted in Philadelphia in 1775. A second American edition was printed in Boston in 1794. In the meantime, in 1786, an English born Bostonian, John Norman, published a volume entitled The Town and Country Builder... pirated entirely from English sources. The frontispiece, for example, is copied from Isaac Ware's Complete Body of Architecture (London, 1756). The absence of any original material has prevented this work from enjoying the honor of the first native American architectural publication. In his next work Norman fell back upon a straight republication of one of the standard English handbooks: William Pain's Practical Builder, or Workman's General Assistant... "printed and sold by John Norman" in Boston in 1792. This was the first American edition of Pain's work and was followed by editions of The Builder's Pocket-Treasury... and The Practical House Carpenter... published in Boston in 1794 and 1796. The latter work, together with an edition of The Carpenter's Pocket Directory, was
published in Philadelphia in 1797, and three years later in 1800 the first American edition of Patty and Thomas Langley's *Builder's Jewel* was published in Charlestown, Massachusetts.

These American editions of English works, falling entirely within the classification of practical builders' guides, together with many similar publications imported from England, were both the models in form and sources of inspiration in detail for the native American books which soon followed. The first and perhaps the most important were the works of a rural Connecticut River Valley builder-architect, Asher Benjamin. Strongly rooted in the traditional practices of rural New England, Benjamin brought to all of his builders' guides a simple, practical approach to the problems of building, unencumbered with the formality of aristocratic European styles. The customary Yankee shrewdness with which he sensed a ready market for native American architectural works and the confidence with which he launched into the project without any real precedent is the more remarkable in light of a certain quality of personal unobtrusiveness and even conservatism that one often feels in the man himself. He speaks with all the force of an originally inspired mind when he urges the builder to follow specific methods leading to greater facility and success in his trade, yet his works are conspicuously structured on English models and furbished with English detail drawn from a wide variety of sources.
Benjamin was essentially an instructor, lacking in any extraordinary creative gifts of his own, and earnestly dedicated to the widest possible distribution of information based modestly upon his own experience and that of others.

Benjamin was, however, far more than a mere imitator. He knew that American conditions demanded an adaptation of the current English forms, not only because of different building materials but also because of the financial limitations of the average builder. He clearly reflects that growing nationalistic sense of America's importance, the validity of her own forms, and the possibilities of her own individual expression. In all his work, whether originally inspired or unimaginatively copied from English publications, he more than any other person, as Talbot Hamlin points out,

is responsible for the character we call roughly Late Colonial; his mouldings, his doors and windows, and his mantels and cornices decorate or at least inspire the decoration of numberless houses up and down the New England coast and in the New England river valleys. The widespread distribution of the Benjamin books, which were popular enough to demand frequent reprintings, accomplished a standardization of this style that had a strong influence down to the Civil War.¹

This architect-author, to whom we may fairly credit the publication of the first native American builders' guide, was born on June 15, 1773. Both his parentage and birth

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place are uncertain and he does not appear in the standard Benjamin genealogies. Tradition asserts that he was born in Greenfield, Massachusetts,² and it is significant, perhaps, that his earliest known works are to be found in and around that city. Some of the architect's signed drawings, now preserved by the Society for the 'reservation of New England Antiquities, bear the legend "Greenfield 29 of January 1797 AE" when the architect was only twenty-four years of age, and his first book, The Country Builder's Assistant was published in Greenfield that same year.

Of his schooling and early training we have no other source than conjecture. His earliest plans are crude, even sloppy, and spellings in the marginalia, "Bead room," "Weadth," and "Pelaster," for example, suggest plainly that his education lay in a period before the general adoption of Noah Webster's standardized spellings. He may have attended some small rural school, and like all builders of his day unquestionably served a period of apprenticeship with a local carpenter-architect or master-builder. In this way the young builder learned how to hew out and prepare the timbers for a house frame and how to "get out" the mouldings and other de-

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² This statement occurs in the writings of both Talbot Ham- lin (op. cit.) and Alexander J. Wall (Books on Architecture Printed in America 1775-1830 [Cambridge, 1925]) and their authority would appear to be a great-grandson, Chester W. Bliss of New London, Connecticut, (now deceased). The mat-
tails of finish. He learned the proper construction of chimneys and fireplaces, the proper seasoning of woods, and the use of tools, arriving finally at that point at which as journeyman or head-workman he was ready to assume directions in the raising and finish of a house. Few events of the day were as colorful as the house raising, and few demanded so much careful co-operation. All the neighbors gathered to help raise the trusses into place with long spiked poles while the master workman or journeyman rode up on the frame, shouting directions and pinning the parts together at the top. We hear little today of the "rum pole," a nickname once commonly given to the ridge pole which suggested what turn the festivities took at this point when the crowning feature of the house had been fastened into place.

With his apprenticeship behind him the young builder sometimes set out upon a travelling tour to learn more of his trade in distant parts. Quite possibly Benjamin may have taken such a journey. We hear of him first of all in 1795 when only twenty-two years old farther down the Connecticut River Valley in Hartford, where, as he tells us, he "made the drawings and superintended the erection of a circular

ter is doubtful, however, owing perhaps to the inadequacy of the vital records at that period which fail to reveal the presence of any Benjamins in Greenfield.
staircase in the State House . . . " then building under plans furnished by Bulfinch.

In his earliest work, characterized by the Coleman-Hollister House in Greenfield (to which a date of 1797 is assigned) Benjamin can be styled as Early Republican or Post Colonial (Fig. 1). As elsewhere in New England the architect carried over certain basic Georgian forms - the pilasters spaced regularly along the facade, the Palladian window, the hip roof - and added to these the refined proportions and "Roman" detail of the Adam brothers popularized in this country through the works of the brothers James and William Pain. Actually, the "Roman" style as developed by the brothers Adam and interpreted by the brothers Pain while retaining its richness and freedom bears little reference to the original sources in Pompeii and Spalato. Their details show a character much more English than Roman, and are, in fact, a blend of influences from many sources including the Palladianism of Isaac Ware. In the Colonial adaptations we find that wooden detail becomes more and more complex and made of smaller and more parts. Columns and pilasters become thin-

3 Benjamin, Asher. Practice of Architecture (Boston, 1840), p. 79.

4 Of those designs in Benjamin's own hand which are preserved by the Society for the Preservation of New England Antiquities and which are for the most part finish detail drawings a good number, including those marked Greenfield
Figure 1. Coleman-Hollister House. Greenfield, Massachusetts. 1797. (Photo: Historic American Buildings Survey)
ner and entablatures proportionately smaller. Wood which to the older Georgian builder had often been but a poor substitute for stone now becomes an inspiration. Reeds and flutings brought out its workability, slimness and delicacy its elastic strength.

From the newly popular Adam forms Benjamin derives, too, the design for the doorway in the Coleman-Hollister House, consisting of a single large door flanked by two side-lights and the whole capped with a single semicircular fan light (Fig. 2). This composition, appearing in the work of Bulfinch as early as 1794-5 in the Tontine Crescent in Boston, was soon to be popularized by Benjamin in the second of his published works (1806), together with the interesting cornice moulding which appears in the Greenfield house, consisting of a segmental convex profile bored with auger holes - a device which may possibly have originated with Benjamin (Fig. 131, B).

The work on the Coleman-Hollister House would have kept Benjamin busily engaged during this period. On February 7, 1797, there appeared in the Greenfield Gazette an advertise-

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5 Robert Adam uses this form in a house which he designed at Number 20 St. James Square, London, in 1772.
Figure 2. Doorway. Coleman-Hollister House. Greenfield, Massachusetts. 1797. (Photo: Historic American Buildings Survey)
ment explaining that "Asher Benjamin wants to hire 7 or 8
journeyman Joiners, for next summer," and we can add to this
work the problems centering around the publication of his
first book, The Country Builder's Assistant, printed at Green-
field by Thomas Dickman in that same year (1797). The text
consisted of thirty copper plates "Correctly Engraved . . .
With a Printed Explanation to each," in which could be found
"A Collection of New Designs of Carpentry and Architecture;
which will be particularly useful to Country Workmen in gen-
eral." The title page included a fairly exhaustive table of
contents, listing

Frontispieces, Chimney Pieces, &c. Tuscan, Doric,
Ionic, and Corinthian Orders, with their Bases,
Capitals, and Entablatures: Architraves for Doors,
Windows, and Chimneys: Cornices, Bases, and Sur-
base Mouldings for Rooms: Doors, and Sashes, with
their Mouldings: The construction of Stairs, with
their Ramp and Twist Rails: Plan, Elevation, and
one Section of a Meeting-house, with the Pulpit at
large: Plans and Elevations of Houses: The best
Method of finding the length, and backing of Hip
Rafters: Also, the tracing of Groins, Angle Brack-
ets, Circular Soffits in Circular Walls, &c. 6

Benjamin's title was not copied from any other known
builders' guide of the period, but is only a slight variant
of standard English titles (compare for example Batty Lang-
ley's Builder's Complete Assistant). In content, too, the
work remains strictly within the limits of standard English

6 Benjamin, Asher. The Country Builder's Assistant (Green-
field, Massachusetts, 1797), title page.
fare though interpreted freely and with an eye to those modifications which would most appeal to the American country builder. Benjamin has drawn heavily upon at least two English authors for a large portion of his material. These, as one might well expect, were William Pain and Peter Nicholson whose works were patently directed towards the practical rural builder. The plates in the *Country Builder's Assistant* are crude, even as Benjamin's own drawings are crude, but are very similar in style to those plates published by both Nicholson and Pain. In many cases this similarity is so strong that one might easily imagine that the same hand had engraved both plates.

The American author seems to have leaned more heavily upon Pain's *Practical House Carpenter* than upon any other work. In one or two cases, notably plates 6 (directions for drawing the Ionic "cap") (Fig. 3) and 30 ("plan of a circular Wall, wherein a circular door or window is to be fixed"), both the plates and text are taken bodily from this work of Pain's (plates 16 and 5 respectively) (Fig. 4) with only some trivial changes in the direction of simplification. Similarly, Benjamin's plate 9 (directions for diminishing the shaft of a column and setting out the flutes and fillets) has obviously been copied from Pain's plate 17, though Benjamin rearranges the parts somewhat, and alters and simplifies the text for diminishing the shaft. That portion of the text which refers to the setting out of flutes and fill-
Figure 3. Country Builder's Assistant (1797). Plate 6. Directions for drawing the Ionic capital.
Figure 4. William Pain. Practical House Carpenter (1789). Plate 16. Directions for drawing the Ionic capital.
ets, however, is lifted again almost verbatim from Pain. In much of the remaining material, for example those plates devoted to frontispieces (Fig. 115), mouldings (Fig. 5), mantels (Fig. 6), cornice details, and the orders themselves, there is such strong correspondence with the similar material in Pain that one can consider Benjamin's compositions as variations only upon well-defined themes from the Practical House Carpenter in which the composer introduces little or no original material of his own (compare, for example, Figs. 5, 6 and 7).

To a lesser extent Benjamin drew also upon at least one other work of William Pain's and possibly a third. Benjamin's plate 28 (roof plan) (Fig. 8), for example, represents a much simplified version of plate 3 in Pain's Carpenter's Pocket Directory (Fig. 9), while the text is copied substantially verbatim with only the omission of a phrase or sentence here and there to keep pace with the simplification practiced upon the plate. It is possible, too, that Pain's plates 14 and 15 (roof trusses) may have provided general inspiration for those which Benjamin has shown in plate 29 (Fig. 10). Figure C on that plate, for example, parallels almost exactly Pain's figure B on plate 15.

In his plates 1 and 2 (architraves, keystones, banisters, and mouldings, and directions for proportioning the orders) Benjamin reveals a possible influence from still another
Figure 5. *Country Builder's Assistant* (1797). Plate 15. Mouldings.
Figure 6. *Country Builder's Assistant* (1797). Plate 20. Chimney piece.
Figure 7. William Pain. Practical House Carpenter (1789). Plate 60. Details of chimney pieces.
Figure 8. *Country Builder's Assistant* (1797).
Plate 28. Roof construction.
Figure 10. Country Builder's Assistant (1797).
Plate 29. Roof construction.
work of William Pain's, the *Practical Builder*, which, as we have seen, was among the early American republications of English works, having been reprinted in Boston in 1792. Plate 10 (Fig. 12) of this work has many of the details found in Benjamin's plate 1 (Fig. 11), and while the American author adds details of his own and changes the order somewhat the parallel between Pain's organization of these features and Benjamin's remains sufficiently striking to suggest an influence. Similarly, Benjamin appears to have taken over from Pain's plate 13 (Fig. 14) the general features of his own second plate in which he gives directions for proportioning the orders (Fig. 13).7

It is clear, then, that Benjamin's primary inspiration in his first publication was William Pain. Later works will show a sharply decreasing influence from this writer while other English authors will come forward to take his place. One of the more conspicuous of these was Peter Nicholson whose influence can be divined in the *Country Builder's Assistant*, but only to a very limited extent. Writing later of his construction of the circular staircase in the Hartford State capitol in 1795 Benjamin acknowledges himself in-

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7 Benjamin's plate is somewhat more bold in line, with the omission of certain of the measurements and guide lines which Pain includes and the addition of the details of subliths, featured by Pain in an additional plate (14), but the parallel is boldly underscored. Actually, the
Figure 11. *Country Builder's Assistant* (1797).
Plate I. Architraves, keystones, banisters, and mouldings.
Figure 12. William Pain. *Practical Builder* (1792). Plate 10. Architraves, keystones, banisters, and mouldings.
Figure 13. *Country Builder's Assistant* (1797). Plate 2. Directions for proportioning the orders.
Figure 14. William Paine. Practical Builder (1792).
Plate 13. Directions for proportioning the orders.
debted to Peter Nicholson for the method used, "invented by him [Nicholson] and published in the year 1792. ..." The work to which Benjamin refers was unquestionably the *Carpenter's New Guide*, published in London in 1792. Despite the very pronounced influence which this work was to have upon Benjamin's second publication there are only one or two plates which seem to have provided material for the *Country Builder's Assistant*. Plate 43 (roof trusses) contains at least one example which is almost exactly like that shown by Benjamin in plate 29, figure D, while plate 46, figure C (Fig. 15) contains another truss which is strikingly similar to one shown by Benjamin on plate 29, figure E (Fig. 10). Though no exact parallel can be found, it would appear, too, that Benjamin's plate 21 (details of stairway construction) (Fig. 16) was also inspired by Nicholson's numerous plates on the subject, and of course Benjamin's own statement would bear this out.

At least one more English work which Benjamin possibly consulted in the preparation of his own builders' guide may be cited. This was William Halfpenny's *New and Compleat Sys-

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Practical Builder is composed of more elaborate designs and details than either of the other works, and for this reason would have offered but little of interest to Benjamin in his compilation of the *Country Builder's Assistant*.

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Figure 16. *Country Builder's Assistant* (1797).
Plate 21. Stairway construction.
tem of Architecture . . . (London, 1759), devoted to plans and designs of moderately simple houses. The author gives general dimensions and other bits of pertinent information, precisely as Benjamin does in the case of the house designs included in the Country Builder's Assistant. At least two of Halfpenny's designs, moreover, plates 16, number 7, and 31, number 24, bear a strong resemblance to similar house designs of Benjamin shown in plates 25 and 26 (Figs. 17 and 18). The latter design was apparently by no means uncommon, and John Cruden shows a similar design on plate 19 of his Original Designs which if anything is even closer to Benjamin's in form and detail (Fig. 19). 9

Throughout the greater part of his work Benjamin remains relatively within the confines of standard practice as revealed in the current builders' guides from Europe. In some few instances, however, we find variations which must reflect the modifications and individual ideas which his own practice had produced. He increases the standard proportions of the orders, for instance, fully in keeping with Adam attenuation of form and adaptation of the orders to the material of wood. The Tuscan is given eight diameters (Fig. 20), the

9 Individual details in Benjamin's designs can also be found in the English publications, such as for example the doorway which appears in the house in plate 25 (Fig. 17), a prototype for which can be found in plate 6 of Thomas Lightowler's The Gentleman and Farmer's Architect (London, 1774).
Figure 17. Country Builder's Assistant (1797).
Plate 25. House.
Figure 18. Country Builder's Assistant (1797).
Figure 19. John Crunden. Original Designs (1767).
Figure 20.
Country Builder's Assistant (1797).
Plate 3. Tuscan order.
Doric nine, the Ionic ten, and the Corinthian eleven in height, a departure from established precedent which he will explain in his next work (q.v.). Additional plates, such as for example those numbered 12 (four and six panel doors), 17 (fireplaces) (Fig. 21), 13 (details of windows) (Fig. 22), and 33 (plan of triple flight stairs) contain material of such simple and traditional New England stock that one may assume that Benjamin in the design of these plates again drew upon his own practice and common experience.

Of all the plates in this work perhaps none has left so noticeable an imprint as the well-known plate 27 (plan and elevation for a meetinghouse) (Fig. 23). The design is peculiarly American and occurs in none of the standard English publications. At the same time, we can credit Benjamin with the general arrangement only, for the special character of this church type which becomes so popular in New England in the early nineteenth century had already been evolved by his well-travelled contemporary, Charles Bulfinch. The stylistic evolution of ecclesiastical architecture from meetinghouse to church in New England has been ably traced by Charles Place\textsuperscript{10} who shows how the typical eighteenth century plan with pulpit placed against the long side of the meetinghouse

\textsuperscript{10} Place, Charles A. "From Meeting house to Church in New England." Old Time New England, 13 (October, 1922), pp. 69-77; 13 (January, 1923), pp. 111-25; 13 (April, 1923),
Figure 21. Country Builder's Assistant (1797).
Plate 17. Chimney piece.
Figure 22. *Country Builder's Assistant* (1797). Plate 13. Window construction.
gives way almost universally at the end of the century to one with pulpit located in the center of the short side opposite the entrance. There remained but one final step in this transition to the form as we know it so familiarly today. This step was taken by Bulfinch in two churches which he designed in Pittsfield and Taunton, Massachusetts (Fig. 24), finished in 1793 and 1794. Both of these buildings display what Charles Place calls "Bulfinch's contribution" in "the working out of the projecting porch facade." It seems almost certain that Benjamin had seen one or both of these structures. His own contribution lies in the relation of the various parts and in the cupola and belfry which does not appear to follow either of the Bulfinch prototypes. Strikingly similar cupola and belfry compositions can be found in plates 24 and 31 of James Gibbs' Book of Architecture (London, 1728), but it is doubtful whether Benjamin had had access to Gibbs at this stage of his development. It is more tempting to assume, as does Miss Patricia Smith in her extensive study of the New England meetinghouse, that Benjamin's immediate source of inspiration in this design was the cupola and belfry of the 1777 Farmington, Connecticut, meetinghouse which

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pp. 149-64; 14 (July, 1923), pp. 3-20.

11 Place, Charles A. Charles Bulfinch, Architect and Citizen (Boston, 1925), p. 34.

12 Smith, Patricia A. New England Meeting Houses and Churches
Figure 24. Meetinghouse. Taunton, Massachusetts. 1794.
(Photo: Charles Place. Charles Bulfinch... p. 35)
he might easily have seen when working in nearby Hartford in 1795 (Fig. 25). The substitution of an abbreviated belfry roof with cyma recta profile for the Farmington spire may reflect again the work of Bulfinch whose Pittsfield belfry was roofed with a similar construction. Regardless of the degrees of originality to be traced in this work it cannot be denied that through this plate Benjamin’s influence upon the spread and popularity of the "church" with projecting porch facade in New England in the early nineteenth century was almost incalculable, and occasional examples are to be found even as far west as Ohio (see chapter IX).

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One year after the first appearance of the Country Builder’s Assistant Benjamin published a second edition, printed in Boston in 1798 "for the author, [and] sold by him, and by Alexander Thomas, Worcester."¹³ The title page omits the explanatory material immediately following the title proper of the first edition, and announces now as one of its principal purposes that of fully explaining "the best methods for striking regular and quirked moldings" and "for drawing and work-

¹³ Benjamin, Asher. The Country Builder’s Assistant (Boston, 1798), title page.
Figure 25. Meetinghouse. Farmington, Connecticut. 1777.
(Phot: Harvard Library)
ing the Tuscan, Doric, and Ionic and Corinthian orders with their pedestals, bases, capitals and entablatures. The text of the work remains unaltered, with, however, the addition of seven new plates with their "printed explanations" and with only such changes in the table of contents listed in the title as were necessary to indicate the presence of the added material.

The new plates, numbered 9, 10, 17, 18, 31, 32, and 34, are devoted to pedestals for the Tuscan, Doric, Ionic, and Corinthian orders, to four new cornice designs, designs for fences, and to the plan and elevation of a "country seat." This last design on plates 31 and 32 is in many respects the most elaborate of all of Benjamin's published house designs, deriving closely from earlier Georgian practice and with ample precedent in the standard English publications (Figs. 26 and 27). The main body of the house does not vary significantly from the popular central hall, two story, hipped roof house of the period which Benjamin had published in the first edition of the Country Builder's Assistant, and which he had actually constructed in Greenfield that same year (Coleman-Hollister House, 1797). One of the conspicuous features in the Coleman-Hollister House was its graceful "circular stair-case" (Fig. 28), and now, one year later, Benjamin includes

14 Ibid.
Figure 26. Country Builder's Assistant (1798).
Plate 31. House.
Figure 27.
Country Builder's Assistant (1795).
Plate 32. House.
Figure 28. Hall. Coleman-Hollister House. Greenfield, Massachusetts. 1797.

(Photograph: Historic American Buildings Survey)
for the first time in any of his published works in the plan for the "country seat." The whole problem of the new free-standing circular stairway construction was to absorb an increasing amount of space in Benjamin's subsequent works, and its appearance here marks an important milestone in American architectural history - important, for if we are to believe Benjamin, the introduction of this feature, in New England at least, was largely owing to his efforts. Of this Benjamin wrote a number of years later: "To the ingenious Peter Nicholson, of London, we are all indebted for this method. It was invented by him and published in the year 1792. . . ."

On the basis of this material, as we have already seen, Benjamin made the drawings and superintended the erection of a circular staircase in the Statehouse at Hartford, Connecticut, and this "I believe," says Benjamin, "was the first circular rail that was ever made in New England."¹⁵

Of the remaining features of the design the most conspicuous appear to be the two additional rooms projected at

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¹⁵ Benjamin Asher. Practice of Architecture (Boston, 1840), p. 79. This statement, penned by Benjamin at a later period in his life, is open to question. Samuel McIntire's house for Theodore Lyman in Waltham, building after 1793, appears to have had a circular staircase, and drawings for the Derby mansion in Salem dating from 1795 on also show this feature. It would thus perhaps be more correct to consider Benjamin's among the first. Certain it is that this construction did not become in any sense common even in the work of McIntire and Bulfinch for yet another four or five years.
the rear of the house (elevation not indicated), the addition
becoming more common now of a service staircase at the rear
of the house, and the octagonal rooms of twenty-two feet dia-
meter which flank the house symmetrically on either side,
connected to the main mass by low one story curving passages.
These features more than any other contribute to the elabor-
ate character of the house, though by no means unknown either
at home or abroad. Robert Morris, John Crunder, Thomas Light-
holer, and James Gibbs (Fig. 29) had all published such plans
with central mass and symmetrically placed outlying quarters
connected by either straight or curving passages. In New Eng-
land a somewhat similar treatment (though we have little evi-
dence that Benjamin was at all familiar with eastern Massa-
chusetts till after his arrival there in the early 1800's)
can be seen in Samuel McIntire's house for Theodore Lyman in
Waltham, building after 1793. Indeed, it seems that Benja-
min had studied the possibilities of such a design in connec-
tion with his own practice. Among the original drawings of
his preserved in the headquarters of the Society for the Pre-
servation of New England Antiquities is one such design, un-
dated, but included among a variety of designs bearing date
of 1797, in which an elaborate "wing" with colonnaded door-
way and large elliptical fanlight placed in the second story
is connected to the "Great House" by means of a closed pas-
sage furnished with round-headed windows and panels with
scalloped corners. The style and character, particularly
compared with McIntire's first study for the Derby mansion, suggests a possible contact with the Salem architect's work.

The *Country Builder's Assistant* was limited to four editions, the last two of which, published in Greenfield in 1800 and 1805, parallel the enlarged edition of 1798. Between the appearance of the enlarged *Country Builder's Assistant* in 1798 and the appearance of his next work, the *American Builder's Companion* in 1806, however, Benjamin underwent the transition from "country builder" to city architect in the capital of his native Massachusetts. The transition was circuitous, and took the author-builder first to Windsor, Vermont, for a period of perhaps as much as five years. We wonder what attraction enticed Benjamin away from the apparently lucrative practice which he enjoyed in and around Greenfield to the northern part of Vermont. The South Church in Windsor, built in 1798, has been attributed to him, and combines in its spire, interestingly enough, the belfry and cupola shown in plate 27 of the *Country Builder's Assistant* with an extension of the tower in which are found the same variety of niches which Benjamin was to use a few years later in the design of the West Boston church (Fig. 30). It is tempting to believe that Benjamin was in some way connected with the design and erection of this church, and finding fertile field for his abilities remained in Windsor to take up a practice. At least four houses have been ascribed to him.
in Windsor itself, and the records show that he owned a house there for two years. Interesting, too, are announce-
ments which appeared in the Windsor local papers in 1802 an-
nouncing his intentions of starting an architectural school.
Such a school would have been another tribute to Benjamin's pioneering spirit in the optimistic days of the young Repub-
lic when such facilities were virtually unknown. Benjamin
removed to Boston shortly thereafter, however, and the archi-
tectural school which he is known to have established in that
city may have been important in its own day but it left be-
hind it no conspicuous record of achievement. Roger Hale New-
ton asserts that this school "probably meant an atelier - a
workshop where an apprentice could learn the rudiments of
draughting, calculating, Classical orders, and actual experi-
ence with moulding planes and lathes - rather than a school
in the pedagogical sense."16

It is interesting to note in passing that Benjamin's
known work in Windsor, particularly the Fullerton and Harri-
et Lane Houses, show a much higher degree of enthusiasm for
Adam-Pain forms than any of his known work in Massachusetts
or any of his published designs to this time. An inventive
ingenuity and exuberance in decorative detail go hand in hand
to produce in the Fullerton House (ascribed to 1800) a fac-

16 Newton, Roger Hale. Town and Davis, Architects (New York,
1942), p. 27.
ade bestrewn with garlanded panels, festoons, and rosettes - a marked contrast to the strong restraint which characterizes most of his later work in Boston. Benjamin's work in Windsor serves as a climactic confirmation of the Pain-Adam creed which he had codified for a host of rural builders. In these houses his style reaches its most provincial quality, to be replaced almost immediately by the studied urbanity of Bulfinch and the Boston school. In his mature work Benjamin never again crowds the limits of restraint as he does in these last houses of his in the Connecticut River Valley.
Chapter II
"A new system of architecture"

Benjamin appears in the Boston directories for the first time in 1803, listed as a "housewright, Poplar street."\(^1\) Not until 1810 is he dignified with the title of "architect," located by that time at number 4 Charles Street.\(^2\) It is clear, however, that he had established his reputation as an "architect" well before then. Indeed, he styles himself as "Architect & Carpenter" in the title page of his next work published in Boston in 1806.

The Massachusetts capital at the turn of the nineteenth century was still a city of brick and wooden houses and spir- ed churches, bounded almost entirely by water and marshes. Cows grazed on the Common and windmills in different parts of the town were still to be seen. The Old South and Old North churches, together with King's Chapel and the Old State-house, were among the important architectural milestones of the eighteenth century. These remained as fixed landmarks within a scene whose whole aspect began to change significant- ly within the last decade of the eighteenth century. Increasing commercial prosperity provided the means for this new growth, and a young Bostonian, Charles Bulfinch, provided the

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2 The Boston Directory . . . (Boston, 1810), p. 28.
talent and a new direction in design. An offspring of one of Boston's substantial families, Bulfinch's interest in architecture was at first just a "taste" which he cultivated during slack moments in his work in Joseph Barrell's counting-room. Later, from 1785 to 1787, he travelled in England and on the Continent, becoming increasingly absorbed in the architecture which he found there.

Upon his return to Boston, as he relates, "he passed a season of leisure, pursuing no business but giving gratuitous advice in architecture, and looking forward to an establishment in life." His "gratuitous advice" was unfortunately cut short a few years later in 1795-6 with the failure of a cherished building project, the Tontine Crescent. Bulfinch found himself suddenly bankrupt and as a consequence forced into a professional role. His knowledge of architecture by this time was extensive and his sources far-reaching in scope. Among the books which he owned were copies of William Thomas' Original Designs in Architecture (London, 1783), John Crunden's Original Designs (London, 1785), Sir John Soane's Designs in Architecture (London, 1778), and an edition of Palladio. Of even greater importance were the years of foreign travel, and to all of this, as one of his contemporaries observed, were added the benefits of a "good natural genius

and a liberal education. ..." For the few brief decades from 1790 to 1820 material prosperity, feverish building activity, and skilled architectural planning under the leadership of Bulfinch go hand in hand to a degree which has set the period apart as historically unique. The Boston Theatre (1794), the Tontine Crescent in Franklin Park (1793-1796), the new Statehouse on Beacon Hill (1795-1798), the Holy Cross Church (1803), the New North Church (1804), the remodelling of Faneuil Hall (1806), the Boylston Market (1809), as well as many fine residences upon the Hill, created in this period a new metropolitan style. In all of Bulfinch's work, primarily inspired by the English Palladianists and the Adam brothers, there runs a skillful manipulation of mass and a studied restraint in the handling of decorative detail. In this respect particularly it stands in marked contrast to the exuberant use of Adamesque forms in the works of Pain and in the Country Builder's Assistant.

Bulfinch's work is consistently domestic in scale compared with the English work from which he derived continued inspiration. It is perhaps provincial as well when one considers the direct and urbane approach of his contemporary, Thomas Jefferson, to problems of classic form. Yet the new Statehouse (Fig. 56), despite its scale and its obvious re-

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4 Ibid., p. 24, quoting from the Massachusetts Magazine for December, 1793.
flection of European grandeur, is easily and thoughtfully re-
related to its setting. In its very simplification, in the
rhythmically plain arcade and economical use of detail it
achieves a quality which both characterizes and complements
the people for whom it was built. The new Statehouse, over-
looking the city, became a symbol of the new style and an
architectural embodiment of Bostonian respectability.

Benjamin's first important commission in Boston, the
West Boston Church on Cambridge Street which he designed in
1806 (Fig. 30), reveals his professional status and repre-
sents a complete break with his former style - a break which
can only be explained by contact with entirely new sources.
By 1806 Bulfinch towered above any other architects in the
city, and the buildings we have mentioned would have provid-
ed Benjamin with a startlingly rich diet following his years
of work in the rural Connecticut River Valley. The young
architect fell instantly into step with the new Bulfinch
style which he discovered in Boston and soon learned to prac-
tice the same restraint in his own work. His admiration for
Bulfinch seems to have been unstinted from the start. In his
second handbook, published in Boston in 1806, a large number
of designs are clearly influenced by the Bulfinch style, and
at least two of them are copied from actual works by the Bos-
ton architect. One is reminded, too, of Benjamin's later re-
ference to Bulfinch as the man "to whose classical taste we
are indebted for many fine buildings. The construction of
Figure 30. West Boston Meetinghouse. Cambridge Street, Boston, Massachusetts. 1806. (Photo: Harvard Library)
the Franklin Street houses, of which that gentleman was the Architect," he writes, "gave the first impulse to good taste; and Architecture, in this part of the country, has advanced with an excellent progress ever since." The Massachusetts Institute of Technology now owns a copy of Benjamin's Practice of Architecture "Presented," as the inscription tells us, "to Chs Bulfinch Esq with the respects of the Author."

The West Boston Church was very noticeably influenced by Charles Bulfinch. The inspiration undoubtedly came from two churches which Bulfinch had recently completed in the city: the Holy Cross Church, completed in 1803, and St. Stephen's (formerly the New North Church) finished in 1804 (and brick as was Benjamin's) (Fig. 31). Both of these churches show a broadening of the facade, another of Bulfinch's innovations, based ultimately on the Italian Baroque tradition. The facade of Benjamin's church, following this general model, is divided into three horizontal stages of diminishing proportions, and is further divided into three parts vertically. The division in the first stage, which includes two stories, is accomplished by four shallow buttress-like projections in each of which has been introduced a rectangular sinkage extending from top to bottom. The second stage consists of three round-headed windows separated by coupled pil-

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5 Benjamin, Asher. Practice of Architecture (Boston, 1840), p. iii.
Figure 31. St. Stephen's Church. Boston, Massachusetts. 1804. (Photo: Charles Prince. Charles Bulfinch. . . , p. 130)
asters and elevated on pedestals which carry a Doric entablement. In the third stage there is a central pedimented panel enclosing a clock and festoons, flanked by two windows and at the extreme outside by two shallow round-headed niches, reminiscent of a similar detail in the tower of the Windsor Church. The belfry above contains a circular-headed window flanked with slender applied columns, very possibly inspired by the tower of St. Stephen's (Fig. 31). The whole design seems to have pleased Benjamin for he incorporated it in the first edition of his second work, the American Builder's Companion which was published in Boston that same year, 1806 (Fig. 54).

By the time he came to compile this second work in 1806 Benjamin would have had not only the advantage of contact with Bulfinch's style, but also a much readier access to a wide variety of architectural publications and an opportunity of association and exchange of ideas with other architects and builders in the Boston area. In the full title, The American Builder's Companion; or a New System of Architecture Particularly adapted to the Present Style of Building in the United States of America, we sense the full-bodied enthusiasm with which Benjamin accepts the current style which he finds in Boston and which he proclaims forthrightly as a "new system."

Associated with Benjamin in the publication of this
work was one Daniel Raynerd, "Architect and Stucco Worker," as the title page explains. Raynerd's activities, as far as can be determined, seem to have been confined largely to the Salem area. A signed bill, dated May 20, 1797, preserved in the Essex Institute, discloses that he executed a stucco ceiling in the Derby mansion in Salem at that time, and details in the William Gray House under construction from 1801 to 1804, identical with details which he later published in the American Builder's Companion, suggest that he did work in that house as well. No explanation is given in either the Preface or text of the work as to the reasons which had brought these two men together in a common venture.

Despite the national claim which the authors advance in the title of their work, we find here as in Benjamin's earlier work a continued reliance upon foreign publications for much of the inspiration and often actual source material. In contrast to the Country Builder's Assistant, however, in which there is no mention whatsoever of the sources used the writers now speak of Palladio, Langley, and Sir William Chambers, and we can distinguish other sources as well on the basis of inference. For the first time, too, there is a preface in which the authors seek to furnish an apology for their efforts in the field of architectural writing: "... it is well known to any one in the least conversant with the principles of Architecture," they write, "that not one third
of the contents of the European publications on this subject are of any use to the American artist in directing him in the practical part of his business."6 The style of building in this country differs largely from that of Great Britain and other European countries, partly because of the more liberal appropriations made for building in those countries, and also because of differences in the materials used.

The American Mechanic is, therefore, in purchasing European publications, under the necessity of paying two thirds the value of his purchase for what is of no real use to him; and as the principal part of our designs have been executed by our own hands, we feel confident that this publication will be found to contain more useful information for the American workman than all the European works which have appeared in this country, and which, for the most part, are mere copies one from the other.7

A strict respect for the orders seems to be called for in public buildings only, and others of large size. In private and other smaller buildings the "massy" size and the expense involved are little suited to American means or convenience. "A principal part therefore of our design, in this work," they continue, "is to lighten their heavy parts, and thereby lessen the expense both by labour and materials...."8

They mention, too, for the first time, without further


7 Ibid.

8 Ibid.
elaboration the change in the orders. "We have ventured to make some alteration in the proportions of the different orders, by lengthening the shaft of the column two diameters."\(^9\)

The entablatures and pedestals bear nearly the same proportions as before except that the architrave has less height, the frieze more height (except in the Doric), and the cornice less height and more projection. The authors admit that as the first "who have for a great length of time, published any New System of Architecture," they do not expect to escape some degree of censure. "Old fashioned workmen, who have for many years followed the footsteps of Palladio and Langley, will, no doubt, leave their old path with great reluctance." Impressed, however, with a need for reform in "some parts of the system of Architecture," and on the basis of long practical experience "we have ventured," they write, "without the aid of subscription, to exhibit our work to public view."\(^10\)

There are three facts of significance in Benjamin's second handbook: first, the work was compiled in collaboration with another man; secondly, both authors, to a large extent, drew upon different sources of inspiration than those which

\(^9\) Ibid., p. vii.

\(^10\) Ibid., p. viii.
furnished Benjamin with much of his material in the Country Builder's Assistant; and thirdly, the range of material covered is widened and the text largely expanded. The title page includes as in the Country Builder's Assistant a cursory table of contents, mentioning such new features as "Geometrical lines," "Ornamental Capitals, Mouldings, Friezes, Leaves, and Ceilings," "Plans and Elevation for a Summerhouse," "Plan and Elevation for a Courthouse," "Plan, Elevation, and Section of the Branch Bank of Boston," (a Bulfinch structure which the authors apparently admired), and "particular Directions for executing all the above Designs."

Fortunately all plates in the American Builder's Companion are signed which makes it possible to identify the work of each author. Generally speaking, the Raynerd plates, somewhat under half of the entire number, 11 are devoted to ornamental details. As a stucco worker Raynerd would have had an especial interest and skill in such matters. 12 In

11 The Raynerd plates are numbered 1, 8, 9, 14, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 40, 43, and 44.

12 This would have been particularly true of plates 14 (cornices "principally calculated for stucco, though most of them may be done in wood"), 23 (fancy capitals) (Fig. 32), 24 (ornamental mouldings), 25 (three designs for friezes) (Fig. 33), 26 (leaves for centerpieces of ceilings), 27 (six designs for ornamental stucco ceilings - one of which is inspired by the ceiling which Raynerd executed earlier in the Derby mansion) (Fig. 34), 28 (decorative pilasters and mouldings for chimney pieces) (Fig. 35), and 31 (designs for trusses, keystones, and medallions) (Fig. 36).
Figure 32. American Builder's Companion (1806).
Plate 23. Fancy capitals.
Figure 33. American Builder's Companion (1806). Plate 25. Friezes.
Figure 34. *American Builder's Companion* (1806). Plate 27. Details of ceilings.
Figure 35. American Builder's Companion (1806). Plate 28. Details of chimney pieces.
Figure 36. American Builder's Companion (1806). Plate 31. Trusses, keystones, and modillions.
plates 29 and 30 (doors and frontispieces) (Fig. 39), 32
(banisters and urns) (Fig. 40), 40 (summer house), and 43
and 44 (Bulfinch's bank), however, Raynerd comes over into
those areas which throughout the rest of the work seem to be
more particularly the province of Benjamin. Plate 30 in par-
ticular poses a problem. Figure 1 of this plate, "a Venetian
door, calculated for a brick house" (Fig. 39), follows close-
ly the model of the doorway in the Coleman-Hollister House
which Benjamin designed in Greenfield in 1797 (Fig. 2). "This
kind of door is very fashionable at present,"13 writes Ben-
jamin, and its problematical appearance over a Raynerd sig-
ture may indicate that the latter helped Benjamin in the de-
lineation of this and other plates which are more character-
istic of Benjamin's design than they are of Raynerd's. The
Salem architect is influenced to a far greater degree than
Benjamin by the style of Langley and some of the more elabo-

Of the remaining plates, numbers 1 ("geometrical lines"
and directions for drawing various geometrical figures)
(Fig. 37) and 8 and 9 (details of capitals) (Fig. 38) re-
fect a common pattern and could have been inspired by
either Pain, Nicholson, or Langley. The pentograph in
plate 1 is described by Benjamin as "a useful machine to
diminish drawings. . . . This machine has been used of
late in the United States for drawing profiles, and is
said to have been invented by a Mr. Hawkins of Philadel-
phia; but this is a mistake, as it is an old invention,
and has been in use in Europe for a century at least."
(Benjamin, Asher. American Builder's Companion (Boston,
1806), p. 9.)

13 Benjamin, Asher. The American Builder's Companion (Bos-
ton, 1806), p. 51.
Figure 38. American Builder's Companion (1806). Plate 9. Details of Corinthian capital.
Figure 39. *American Builder’s Companion* (1806).
Plate 30. *Frontispieces.*
Figure 40. American Builder's Companion (1806).
Plate 32. Banisters and urns.
ate English architectural handbooks. His designs show Langley inspired details unique with his plates and appearing nowhere else in any of Benjamin's work - for examples the caryatid figures in the chimney piece of plate 28 (Fig. 35), the human faces appearing in the keystones on plate 31 (Benjamin makes no such use of these common European forms) (Fig. 36), the extensive use of the festoon (Benjamin uses this but sparingly in the Country Builder's Assistant, and later not at all) (Fig. 33), and the formal summer-house shown in plate 40.¹⁴ There is also in the majority of the Raynerd plates a more florid quality than one finds in the characteristic Benjamin designs. The text of the Companion (and it would appear that Benjamin was responsible for the major portions) with its protestations of simplification for the American builder is well suited to Benjamin's own plates, but perhaps somewhat out of character with the more formal designs of Raynerd. It is to be remarked upon, incidentally, that of the designs in this book which are found most often in the

¹⁴ Compare further Raynerd's plate 31 (modillions and keystones) with plate 37 of Batty Langley's Builder's Assistant; plate 32 (urns) with plate 71 of the same work; plate 14 (in which is included a moulding composed of a cord twisted about a horizontal rod) with plate 10 of the Builder's Assistant; plate 25 (festoons with cherub) (Fig. 33) with plate 119 of Langley's City and Country Builder's and Workman's Treasury of Designs (Fig. 41); and particularly the festoons shown by Raynerd in plates 25, 29, and 30 with those shown by Langley in this same plate 119 (Fig. 41).
Figure 41. Batty Langley. *Treasury of Designs* (1740).
Plate 119. Tables for monumental inscriptions.
architecture of the East coast and early Northwest, few are taken from the Raynerd plates. Figure 5 on plate 23 (Fig. 32), for example, being among the simplest of those shown, is to be found rather often, but there are few cases in which the highly elaborate festoon designs in plate 25 (Fig. 33) have been reproduced, even in simplified form, or the keystones with human faces found in plate 31 (Fig. 36). Raynerd detail, as typically found, is more or less confined to the fashionable homes of the period and appears much less frequently in the work of the "country builder."

The Raynerd association was apparently shortlived. In the second edition of the American Builder's Companion which appeared in 1811 Benjamin notes at the close of the Preface: "It may perhaps be asked, why Mr. Raynerd's name, which appeared in the first edition, does not appear in this; I answer, he sold all his right and title to the work soon after its first publication. The plates in this work which were drawn and explained by him, have his name affixed to them," and these Raynerd plates continue to appear in later editions though the partnership had long since been dissolved.

This reference to plates "explained" by Raynerd is interesting, and makes it clear that some of the text at least can be traced to him. In many instances the explanations ac-

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15 Benjamin, Asher. The American Builder's Companion (Boston, 1811), Preface, (unpaged).
companying the Raynerd plates are purely factual, and many of them are in a style hardly distinguishable from Benjamin's. For this reason, further complicated by the everpresent use of the editorial we, it has been difficult to determine decisively in any single instance just which portions of the text may have been written by the Salem stucco-worker. One is impressed at once with the references in many of the Raynerd plates to new methods and techniques. In the text of plate 8, for example, there is an explanation in figure 6 of a new method of drawing a volute for an Ionic capital as laid down by Nicholson, and in plate 9 (Fig. 38) the text explains at some length that the reader will here find a better way of "getting out" a Corinthian capital from several pieces of wood rather than from a single piece as was the general custom. Benjamin's statement concerning the plates "drawn and explained" by Raynerd would indicate, perhaps, that the latter was largely responsible for the greater part of any textual material in connection with his own plates. 16 Of great-

16 In terms of specific plates we can be almost certain, for example, that Raynerd, if not the actual writer, would have had much to say about the preparation of the text for plates 24, 25, 26, and 27 which deal with the design and preparation of stucco ornament. Few plates in the entire work are so amply explained and few techniques so thoroughly detailed. It is clear that the art of stucco working was not too commonly practiced among country builders at least, for the authors' text in this case is clearly aimed at the inexperienced reader. Directions are given for modelling the ornament in clay, the best variety of clay, construction of the templet, casting the mould, description of the tools necessary, composition of and
est importance, however, is the reflection that a large portion of the material, whether it comes from the pen of Raynerd or not, owes much to the ideas which would have come to Benjamin through contact with such men as Raynerd who were well acquainted with current building practices and new techniques in the metropolitan area.

In all those plates which bear Benjamin's signature and in the remaining textual material we assume that the architect himself is speaking. As in the Country Builder's Assistant,

directions for mixing the stucco, and application of the ornament to buildings, etc. Indeed, the writers declare that it was not their intention when undertaking the work to lay down any rules for ornamental stucco work, but merely to give a few examples by drawings. "But as it has never before been attempted, to our knowledge, and our principle aim being to explain those parts of architecture which have been over looked by others . . . we hope the following hints will be of some use to those who are young in the business, and be no injury to those who are well acquainted with the art of stucco working." (Benjamin, Asher. The American Builder's Companion (Boston, 1806), p. 46.) Again, in plate 29 (doorways) we might ascribe to Raynerd the interesting statement which is contrary to Benjamin's practice as outlined in the Country Builder's Assistant and will become altered and amended in his later work, that "where there is sufficient room, and the expense not too great, we would always recommend more than two columns, as a single column on each side of a door has but a naked appearance." (Benjamin. Op. cit., p. 50.) Finally, one may ascribe equally to Raynerd or Benjamin it would seem the explanation accompanying plates 43 and 44 (United States Branch Bank of Boston) in which a description of the building and its attribution to Bulfinch are given and the assertion made that "this building, though small, is very just in its proportions and is entitled to the name of the neatest public building in the state." (Benjamin. Op. cit., p. 65.)
however, Benjamin is again indebted to certain of the con-
temporary English publications for both graphic and textual
material. Certain of his plates, for example 2 (eighteen
different mouldings) and 10 (directions for diminishing col-
umns), together with the designs for the orders (plates 3, 4,
5, 6, and 7) (Figs. 42, 44, 45, and 46), do not depart from
the general character and style of Pain and the English
school (see for example Fig. 43). There is mention too, in-
cidentally, of those practical refinements which Benjamin in-
troduces from time to time, borrowed directly from English
publications or arising from his own practice. The planer
of the mutule of the Doric order, he writes, "is represented
with holes bored in it, instead of bells, which will save one
half the labour of making them; and, at a distance of fifteen
or twenty feet, look as well if not better."\(^{17}\)

The influence of Nicholson is apparent, particularly in
stairway construction. Benjamin's figure B on plate 21 (Fig.
47), for example, is obviously a redrawing of an idea shown
in figure 2, plate 69 of Nicholson's *Carpenter's New Guide*,
and figure A is almost as certainly inspired by Nicholson's
figure A on plate 62 (Fig. 48). From still another English
work, Isaac Ware's *Complete Body of Architecture*, in plate
35, comes an almost exact model for the house shown by Ben-

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\(^{17}\) Benjamin, Asher. *The American Builder's Companion* (Bos-
Figure 42. American Builder's Companion (1806).
Plate 4 (in part). Doric order.
Figure 43. William Pain. Practical House Carpenter (1789). Plate 22. Doric order.
Figure 44. *American Builder's Companion* (1806).
*Plate 5.* Ionic order.
Ionic Order
Figure 45. *American Builder's Companion* (1806).
Plate 6. Corinthian order.
Figure 46. American Builder's Companion (1806).
Plate V. Composite order.
Figure 47. American Builder’s Companion (1806). Plate 21. Stairway construction.
Plate 62. Stairway construction.
jamin in plate 37 (Fig. 49) - the only major difference being the form of the doorway. Throughout all his work Benjamin shows little or no influence from Ware aside from this one plate, and provided that any direct copy can be proved one may suppose that Benjamin had access to this work through some such person as his partner Raynerd.

We have already noted the strong influence upon Raynerd of the works of Langley. Benjamin mentions him, but his own work shows little or no influence at all from this source with the single exception of plate 15 of the Companion in which the architect shows a "Tuscan cornice copied from Langley. . . ."18 The purpose of this plate, combined with a "modern cornice," is to illustrate how a cornice appears when diminished by the distance of height. Benjamin goes on to demonstrate that one can diminish the cornice, save expense, and still have it appear proper through a reduction in height.19 One can only assume that here again, owing to the paucity of Langley influence in any of his other work that he was once more indebted for this material to sources in the hands of some such person as Raynerd.

Despite its influence from current English publications,
Figure 49.
American Builder's Companion (1806).
Plate 37. House.
together with the additional Raynerd material, the *American Builder's Companion* is distinguished by a number of plates which seem to be almost entirely original with Benjamin and by a relatively large amount of original textual material. Whether written in collaboration with Raynerd or not such remarks as those in the section entitled "general observations on placing of columns" do not seem to have been cribbed from any of the usual European sources. He admits that "a single column cannot be ornamental anywhere; nor can much be expected from one being placed at each corner of a building; nor a great deal from one at each corner of a portico, although it if often done, and is sometimes sufficient." As for position, "they never ought to be placed at equal distances from each other, nor nearer to each other than half of their diameter." All this, of course, stands in direct contradiction to the architect's own practice of some six or eight years earlier.

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Treasury of Designs. "As we have had a good deal of practice in this part of our business," they write, "we have paid particular attention to it. We have appropriated plate 15 to prove, geometrically, that the size and beauty of cornices do not so much depend on their height as on their projection. . . ." (Benjamin, Asher. *The American Builder's Companion* (Boston, 1806), p. 26.) The projection of a cornice ought to be at least one fourth more than its rise, continues the account, and the parts should be as few as possible. Three embellishments are generally sufficient for any cornice, and one ought always to be in the plainer. "Stucco cornices admit of much greater variety than wooden ones, but nearly the same rules apply to both." (Benjamin, Op. cit., p. 27.)

Similar cautionary remarks are applied to the proper proportioning of base and surbase mouldings and architraves - designs for which appear in plate 11. The builder is advised against having two widths of architrave in the same room, and reminded that architraves on external parts of the building and at a distance from the eye should be made larger than if used on internal finishing and near the eye. Benjamin makes much the same observation in connection with the cornices shown in plates 12 and 13, at least one of which, figure B on plate 12 (Fig. 131), appears to have been more or less original and popularized through this work. He gives specific directions for proportioning the cornice to the "eves" of buildings and to the heights of rooms, allowing as a "general proportion for cornices to rooms, one fortieth part of the height of the room."21

Throughout the entire work there is an increased emphasis upon detail in the text, matched at all times with an increasing amount of detail and enlargement of detail in the plates. In plate 17 (Fig. 50), for example, the builder is instructed in the minute steps involved in setting a sash, frame, stone cap and sill in a brick wall, and is furnished in this and in the succeeding plate 18 with all the various structural details including a profile of the mouldings of

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21 Ibid., p. 25. Included in these remarks, incidentally, is a description of "the eve cornice of that elegant
Figure 50. *American Builder’s Companion* (1806).
Plate 17. Window construction.
the shutters. Similarly, the one plate of stairway details in the *Country Builder's Assistant* is now expanded to three in the *Companion* which include specific information on the placing of newels, the framing of carriages into circular stairs, and how to draw the scroll of hand rail and risers.

Among the more interesting designs are those for houses and public buildings at the end of the book. One of these, the house design in plate 37 (Fig. 49), as we have seen, may possibly have been copied from Isaac Ware. The country house shown in plate 36 is broadly a continuance of the type which appeared in Benjamin's first work, with, however, a four bay facade in contrast to the more common division of five. As for the rest there can be no question again but what Benjamin's primary influence, particularly in the houses shown in plates 33, 34 (Fig. 126), and 35, was the work of Bulfinch which he found in Boston. 22 In plate 35 (Fig. 51), for example, there is a startling similarity between Benjamin's design for a town house and at least two Bulfinch houses in Boston, those numbered 1-4 Park Street, and the Amory House (Fig. 52) which had been erected in 1805 and *circa* 1803 re-

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house which was lately built for Thomas Amory, Esq. in Park place," by Bulfinch, a design which appears among the other cornices in plate 12, designated as A (Fig. 131). (Benjamin, Asher. *The American Builder's Companion* (Boston, 1806), p. 25.)

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22 In plate 36 the influence, too, in the four bay facade may well have come from Bulfinch who uses a similar treatment
Figure 51. *American Builder's Companion* (1806).
Plate 35. House.
Figure 52. Amory House. Park Street, Boston, Massachusetts. Circa 1803. (Photo: J. M. Howells. Lost Examples of Colonial Architecture, Pl. 71)
spectively. Following Bulfinch's lead Benjamin expands his house to include a full four stories, dropping the Palladian window and adding in its stead the blind arcade so popular with the Boston architect. In plate 35 Benjamin raises the arcade from the basement story where it is usually found in the works of Bulfinch to the second or principal story and adds to the panelled balustrades a motif which Bulfinch had introduced into the houses which he built at the foot of Park Street in 1804.

The increased height in terms of stories is an innovation which can be traced to the turn of the century. The Reverend William Bentley of Salem writes on November 2, 1797, when on a visit to Boston, of "...the new & lofty House of Mr. Harris which is erected on the south side of Fort Hill. This Building is of five Stories, a height unknown in the town ..." 23 It was not until 1809 in Salem, however, before the structure was built which Bentley referred to later as the "first four story house in Salem ..." 24

Concurrently there were significant changes at work up-

in the Hersey Derby House in Salem, circa 1799.


on the house plan, too, and Benjamin incorporates in his own designs for town houses many of the more recent Bulfinch innovations. The transverse hall, common in the houses built before this time and illustrated by Benjamin in his 1797 designs is now eliminated, and the main living rooms are divided between the two stories - an innovation which can be traced ultimately to French practice. The fully circular stairway becomes an integral part of the plan, relegated now to an alcove of its own away from the main reception room or hall where before it had been so prominently displayed (Fig. 51). Benjamin had done this himself in 1797 in the Coleman-Hollister House in Greenfield, placing the staircase in an alcove to one side of the transverse hall (Fig. 28).

Another conspicuous feature in these designs is the change to a new material, brick. Brick had been used sporadically throughout New England for domestic architecture since the seventeenth century, but never with enthusiasm owing to a superstitious belief in its unwholesomeness. George Washington, travelling through the region in 1789 and finding the houses almost entirely of wood, makes note of the fact in his diary. "On wondering at this," he writes, "as the country is full of stone and good clay for bricks, I was told that on acct. of the fogs and damp, they deemed them wholesomer, and for that reason preferred wood build-
ings." To a large extent the traditional use of wooden forms has persisted to modern times in many parts of New England, but in the urban centers the use of brick in domestic architecture had become common by the turn of the nineteenth century. We may credit this partially to inroads upon superstition made by inflowing scientific thought from Europe and other parts of America. Both Franklin and Jefferson had commented upon the "unenlightened" persistence with which New Englanders clung to the superstition of brick as damp and unwholesome. The Independent Chronicle in Boston, reporting on January 24, 1803, a proposal that buildings should henceforth be built of brick, quotes from the "scientific pen of our beloved President," laboring in his Notes on the State of Virginia to dispell the arguments against using this material. "If brick buildings are best even in Virginia," concludes the Chronicle, "certainly it is high time the prejudice against them was scouted from society in Boston, where our houses are much more compact, and of course much more exposed to conflagration." The Chronicle in this statement puts its finger upon the most critical consideration in the adoption of brick in New England's capital, swollen from a decade of intensified commerical activity. The


26 The Independent Chronicle (Boston, January 24, 1803), p. 3.
problem was one of genuine concern in smaller cities as well. On January 16, 1806, following a fire which consumed three buildings in Salem, the Reverend William Bentley wrote that "it is proposed to make it an obligation to rebuild in brick. We see the great danger to which we are exposed from the very great number of wooden buildings." 27 Again on January 3, 1807, he notes anxiously: "Our wooden town excites many a fear." 28 Notwithstanding these fears, Bentley had recorded two years earlier in 1805: "Buildings in brick abound. When I first came to Salem only one Brick yard, in Danvers, was worked in the neighborhood. Now there are two in south, & two in Northfields and one on the neck. Several in Danvers & Lynn." 29 The following year on February 4, 1806, the Salem Gazette listed twenty-six brick houses and thirteen brick stores standing at that date.

Turning to Benjamin's church designs there is a change here as well to the material of brick. The design shown in plate 38 (Fig. 53) appears to represent a composite form combining the essential features of Bulfinch's church with projecting porch facade, broadened now as in the case of St. Stephen's and the Holy Cross Church, and finished with a

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28 Ibid., p. 270.
29 Ibid., p. 197.
Figure 53. American Builder's Companion (1806). Plate 38. Church.
tower and spire in the simplified Gibbsian manner. Despite
the fact that, as Benjamin says, "this house may be built of
wood, and on account of its simple plainness, for a less sum
of money, than houses of this sort usually are built"30 no
copy of this particular design is known to have been made.
The church shown in plate 39 (Fig. 54), on the other hand,
which Benjamin tells us "was copied from the original draw-
ing, which was made for the congregational meetinghouse,
now building at west Boston,"31 seems to have been more popu-
lar (see chapter IX). The structure as actually built has
departed from this drawing in some minor details — notably
in the removal of the blind arcade in the second story and
in the substitution of a square cupola for the octagonal de-
sign shown in the plate.

The design for a courthouse in plate 42 (Fig. 55) again
does not appear to have been copied very widely. It owes
much to Bulfinch in its general arrangement of facade, for
instance to the new Massachusetts Statehouse of 1795 (Fig.
56) with similar arcaded first story and two stories above
enclosed within a single order of freestanding columns (here
altered by Benjamin to engaged orders). The general plan

30 Benjamin, Asher. The American Builder's Companion (Bos-
31 Ibid., p. 60.
Figure 54. *American Builder's Companion* (1806).
Plate 39. Church.
Figure 55. American Builder's Companion (1806).
Plate 42. Courthouse.
Figure 56. Statehouse. Boston, Massachusetts. 1795.

(Photo: Charles Place. Charles Bulfinch... p. 78)
and disposition of the roof form was not unusual at the time. Robert Morris in his Select Architecture shows a similar roof plan in plate 50.

The authors conclude the American Builder's Companion with a short dissertation on "building of Houses, to elucidate the preceding plans, and to assist the student in the practical parts."\textsuperscript{32} The remarks are general in character. "Strength, convenience, and beauty, are the principal things to be attended to," they assert. "The eye ought to see, at the same time, every part of the building, and be sure that no one part of it interferes with another..."\textsuperscript{33} Rooms should be properly lighted with a sufficient number of windows "and of a size suitable for the external part of the building."\textsuperscript{34} As for the proportion of windows to rooms "we do not believe any certain determined rule can be given for their height and breadth, although there are several European writers, who have given rules for their proportion. We think Sir William Chambers has given the best proportion of any one we have seen, yet we do not find it to answer in all cases..."\textsuperscript{35} All doors should be of the same height in a

\begin{itemize}
\item \textsuperscript{32} Ibid., p. 67.
\item \textsuperscript{33} Ibid.
\item \textsuperscript{34} Ibid.
\item \textsuperscript{35} Ibid., pp. 67-8. This rule determines that one should add
room except folding doors which ought to be eight or twelve inches higher; "these folding doors," they add, "are commonly used in Boston, and are very convenient, particularly so when placed between small rooms." 36

With this concluding emphasis upon theory and observation Benjamin strikes a new formal attitude. Textual advice increasingly amplifies and at times even replaces graphic illustration throughout his later work - and the process begins with this second work. In the American Builder's Companion Benjamin emerges from the status of "builder's assistant" to the rank of practical instructor.

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the depth and height of a room together and take one eighth part for the width of the window. The width and height of doors, they continue, depends on the size and height of the rooms in some degree. "In the course of our own practice, we have made doors for rooms of sixteen by eighteen or twenty feet, and ten feet high, three feet wide, and seven feet or seven feet two inches high." (Benjamin, Asher. The American Builder's Companion (Boston, 1806), p. 68.)

36 Benjamin, Asher. The American Builder's Companion (Boston, 1806), p. 68.
Chapter III

"A new system of architecture . . . corrected and enlarged"

A widespread popularity, based on active need, was responsible for the frequent reprinting of all Benjamin's seven publications. Perhaps no small measure of this popularity may be traced to the continual quest for improvement which led their author to revisions and additions as each new edition appeared. He seems to have been peculiarly sensitive to the practicality of the material he presented, allowing no chaff to remain unwinnowed. In one or two instances he made drastic revisions; such was the case with the second edition of the American Builder's Companion, published in Charleston in 1811. The work was advertised as "corrected and enlarged," and subtitled simply as "A system of Architecture" without the qualifying adjective "new." Of all Benjamin's republications none was so thoroughly "corrected and enlarged" as this work. "Sixteen plates, which were in the first edition," writes the architect, "I have laid aside, and have added twenty-nine new ones; which almost makes this a new work."¹ Five years had elapsed since the first publication

¹ Benjamin, Asher. The American Builder's Companion (Charleston, 1811). Preface, (unpaged). Those plates numbered 1 through 16, 18, 20, 21, 24, 25, 42, 45 through 50, and 59 represent the twenty-nine new plates, while from the earlier edition plates numbered 1 through 7, 10, 15, 21, 40, 41, 43, and 44 were dropped, a total of fourteen rather than sixteen as Benjamin writes. The remaining plates of the first edition were carried over into the revised edition.
of the American Builder's Companion, he writes in explanation of the revision, "during which time I have been constantly employed in drawing and executing plans for buildings. The experience of that time enables me to confirm some, and reject other former methods." Actually, the majority of changes in the newly revised edition can be traced again to current English publications. Foremost among these, in terms of abundant material taken from its pages, is Sir William Chambers' Treatise on Civil Architecture, published in London in 1759. Benjamin acknowledges an indebtedness to this work in his Preface, as well as his reliance upon "several authors" consulted in connection with the orders. Similarly, he announces a more expanded treatment on the increasingly popular circular stairs, "for which," he writes, "I must acknowledge myself indebted to P. Nicholson's excellent books on that subject."

The significance of this second edition of the Companion lies in the new standard which it established and which remained the basic form in nearly all of Benjamin's subsequent

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The title page alters somewhat the definition of contents, listing in addition to the usual material a coverage of "practical geometry," "of the five orders of architecture, of their particular parts and embellishments and of their application," "also very fully on stairs," and acknowledges the addition of such new material as "the origins of building."


3 Ibid.
work. From this time on his books are no longer merely carpenters' guides, treating solely of practical matters with a minimum of explanatory text and deriving principally from the carpenters' guides of William Pain. They are to be classified now as architects' handbooks, mingling theory with practice, formal knowledge with practical advice.

The Treatise on Civil Architecture plays a major role in this transition. Benjamin's respect for the English architect shows up particularly in the material on the orders which in form and general organization quite openly parallels the Chambers text. Following Sir William's lead Benjamin opens his work with an expansive chapter, some forty pages, in fact, devoted to a discussion of the "origins of building," to the "parts which compose the orders of architecture," and remarks on "the orders of architecture in general." In some instances Benjamin has copied directly from the English author. The statement on page 30 of the

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4 Benjamin's remarks on pilasters, pedestals, and pediments, added now for the first time, are derived from this source. The first paragraph in both the remarks on pilasters and pediments comes apparently from Benjamin's pen, as does also the paragraph on proportioning pedestals, otherwise this material derives substantially from Chambers in paraphrase form. It would seem almost certain, too, that Benjamin derives the pedestal forms shown in plate 24 and impost designs shown in plate 25 from those plates opposite pages 35 and 56 respectively in the Treatise on Civil Architecture. In the latter plate particularly the differences between the Benjamin and Chambers plates exist only in the most trifling details.
Companion, to take but a single example, which asserts in connection with the preparation of ornament that "A few rough strokes from the hand of a skilful master are much more effectual than the most elaborate finishings of an artless imitator . . ." comes not from the pen of Benjamin, we find, but from Sir William Chambers. For the most part, however, Benjamin has taken pains to translate Sir William's remarks into his own words, and has in some instances interpolated material of his own.

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6 The first three paragraphs of the section on the "Origins of Building," for example, are representative of Benjamin's interpolations. Elsewhere, a single comparison of a brief paragraph from this same section as penned by both authors will serve to illustrate the dependence of the one upon the other and the degree to which the later writer transforms the original material:

Sir William Chambers:  
From this simple construction the Orders of Architecture took their rise. For when buildings of wood were set a-side, and Men began to erect solid and stately edifices of stone, they imitated the parts which necessity had introduced into the primitive huts; in so much that the upright trees, with the stones at each end of them, were the origins of Columns, Bases, and Capitals; and the beams, joists, rafters, and strata of materials, that formed the covering, gave birth to Architraves, Frizes [sic], Tri-

Asher Benjamin:  
This construction, simple as it appears, probably gave birth to most of the parts that now adorn our buildings; particularly to the orders, which may be considered as the basis of the whole decorative part of architecture; for when structures of wood were set a-side, and men began to erect solid, stately edifices of stone, having nothing nearer to imitate, they naturally copied the parts which necessity introduced in the primitive hut; inso-
much that the upright trees,
In one marked characteristic Benjamin differs from Chambers. He omits the references to specific European structures with which Sir William has so liberally sprinkled his text. Obviously the American author felt that illustration by reference to the Pantheon or to St. Paul's in London would be meaningless to the majority of his readers who never had nor were ever likely to see these celebrated buildings. He does, however, retain in many instances the references to earlier writers whom Chambers mentions, such as Serlio and Scamozzi. It is this circumstance which has made it difficult to determine in all cases with just what works Benjamin was in direct contact. In his choice of the orders shown in the Companion he had drawn upon "several authors" as he himself notes. It is tempting to believe that the several au-

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glyphs, and Cornices, with the Corona, the Mutules, the Modillions and the Dentils. (Chambers. Op. cit., pp.1-2.)

with the stones and cordage at each end of them, were the origin of columns, bases, and capitals; the beams and joists, gave rise to architraves and friezes, with their triglyphs and metopes; and the gable roof was the origin of pediments; as the beds of materials, forming the covering, and the rafters supporting them, were of cornices; with their corona, their mutules, modillions, and dentils. (Benjamin, Asher. The American Builder's Companion (Charlestown, 1811), p. 25.)

7 In his later works, particularly those dealing with the Greek Revival forms, Benjamin reverses his feeling in this
thors represent not many works but a single one: John Evelyn's translation of the Sieur de Chambray's *Parallel of the Ancient Architecture with the modern*. In this work Benjamin could have found in easy comparative form the orders as laid down by a group of Europe's foreranking Renaissance architects. Almost without exception those elements in Benjamin's orders can be traced to the examples in De Chambray. "At first they [the orders] were selected from several authors, drawn at large, and wrought," he writes. "After careful examination, such parts as I did not approve, were altered, by drawing and working them over again, and repeating this process several times, till after the most minute and careful examination of every part of the four first orders, I was confirmed in the opinion, that no further alteration, for the better, could be made. . . ."8

Despite this claim of extensive reworking it is relatively easy to trace among the authors and designs which De Chambray shows the component parts which Benjamin takes over in his own work. Benjamin's Tuscan order in plate 12, for instance, is made up principally of Palladio's Tuscan shaft, entablature (with one minor variation in the cornice), and

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base with Scamozzi's Tuscan capital; in plate 13, Benjamin's Roman Doric (Fig. 57), Palladio's base, shaft, and capital (Fig. 58) are combined with an adaptation of Alberti's entablature to which is added in the frieze the medallions which can be found in Chambers' Treatise; and so on through the orders shown. In the Composite order Benjamin goes so far as to declare that the column, base, and capital in his plate are copied from the triumphal arch of Vespasian and Titus in Rome, and that the entablature "is nearly a copy of that of Sir William Chambers."\(^9\)

"I have given the Tuscan column eight diameters in height," he writes, "in imitation of the Trajan and Antonian columns at Rome . . . and have regularly progressed, by giving the Doric nine, the Ionic ten, the Corinthian and Composite eleven diameters each."\(^{10}\) Having for the third time introduced this attenuation of the orders Benjamin goes on to furnish for the first time an explanation of his modification. "I suspect it will be said by some," he writes, "who rigidly adhere to the proportions of the ancients, that the Tuscan column ought not to be but seven, the Doric eight, the Ionic nine, and the Corinthian and Composite ten diame-

\(^9\) Ibid., p. 36.

\(^{10}\) Ibid., Preface, (unpaged)
Figure 57.  *American Builder's Companion* (1811).
Plate 13. Doric order.
Figure 58. Roland Freart, Sieur de Chambray. Parallel of the Ancient Architecture with the Modern (1664). Page 29. Palladio's and Scamozzi's Doric orders.
ters each, in height. Experience has taught me that no determinate rule for columns, in all situations, will answer.

They must be proportioned according to the weight or apparent weight which they are to sustain. "I do not recollect, in the course of seventeen years extensive practice," he continues, "to have made either of the orders larger than the proportion here given; and in but few cases so large." 12

In these plates on the orders there is one other immediate influence of Chambers in the more careful and formal presentation of the detail (compare, for example, Figs. 59 and 60). The drawings are now engraved in fine detail with careful shading to suggest their three dimensionality – in marked contrast to the heavy linear and entirely two dimensional character of the earlier engravings. In his copy of Sir William’s engraving style, Benjamin reflects again the trend in his work toward the more formal architectural handbook.

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Any characteristic influence from the works of William Pain in this second edition of the Companion is conspicuously absent. Figure 3 on plate 42 (directions for finding the different curves for the edges of boards to cover a dome) ap-

11 Ibid.
12 Ibid.
Figure 59.
American Builder's Companion (1811), Plate 14 (in part). Ionic order.
Figure 60. Sir William Chambers. Treatise on Civil Architecture (1759). Plate opposite page 23. Ionic order.
pears to have been adapted with only one or two slight changes from plate 13 of Pain's Practical House Carpenter, but aside from this it is clear that Pain's influence was very much overshadowed by Bulfinch and the more detailed works of Peter Nicholson. Nicholson's influence in the earlier writings has been noticed, but not until this second edition of the Companion does Benjamin begin to draw upon him in generous portions for textual material and graphic detail. The one most influential work in this case seems to have been the Carpenter's New Guide (London, 1792). Large portions of Benjamin's material on practical matters described in the new plates were derived substantially from this work. Nearly all the material on practical geometry found in Benjamin's first five plates, for example, can be traced to the first eight plates of the Carpenter's New Guide. 13

In at least two instances Benjamin takes over bodily examples of Nicholson's plates (numbers 54, "how a scroll is to be got out of the solid," and 60, directions for drawing the falling mould of a rail,) and copies them point blank in his

13 In Benjamin's plate 1 (Fig. 61) both the arrangement of the details on the plate and the wording of the definitions supplied follow the text of Nicholson almost verbatim. Similarly, in the material on stairs which can be found toward the end of the work Benjamin derives much if not all of his inspiration from Nicholson. Expanded now in this work to nine plates (including plates 43 and 44 carried over from the first edition) Benjamin adapts and arranges the material which he derives from Nicholson, compassing his remarks within a suitable framework of reference for the American builder. There are lengthy and de-
Figure 61. *American Builder's Companion* (1811). Plate 1. Geometric lines.
own work together with their texts which are copied almost verbatim. These plates, numbered 45 and 48 in Benjamin's guide mark the first and one of the occasional instances in which he frankly duplicates the graphic detail of another without any comment of his own (Figs. 62 and 63).

The remaining material in the Companion consists largely of practical directions for diminishing columns and describing mouldings, etc., for cornices and other ornamental details, details of construction, and designs for individual buildings. Benjamin includes both those plates carried over from the first edition, new plates in which the detail seems to be largely his own, and the textual material itself, some of it new and some of it carried over from the first edition with more or less revision. In those plates devoted to
tailed directions for drawing the scroll of a handrail, for finding the raking or face mould, for finding the moulds for making butt joints for a rail, and "the tread of a winding stair being given," for diminishing the "ends of the steps at the rail, so that the balusters shall be regular, or of an equal height when finished." (Benjamin, Asher. The American Builder's Companion (Charlestown, 1811), plate 49.)

14 Of the individual structures themselves Benjamin carries over all those shown in 1806 except plates 40, 41, and 43 (summer house, pulpit design, and Bulfinch's United States Bank), and concludes the work with a plate devoted to the "method of building kitchen fireplaces with Rumford's Roasters and Boilers." (Benjamin, Asher. The American Builder's Companion (Charlestown, 1811), p. 104.) This plate, he explains, "was drawn by Mr. Lancaster, who has been more successful in setting Rumford's roasters and boilers, than any other person; and was explained by him and Mr. Howe, who is the only one that makes them in Bos-
This shows how a Scroll is to be cut out of the Solid

Figure 62. American Builder's Companion (1811).
Plate 45. Stairway construction.
Figure 63. American Builder's Companion (1811).
Plate 48. Stairway construction.
structural detail Benjamin contines to move in the direction of a more minutely drawn plate. In plate 7 (directions for diminishing the shaft of a column), for example, elements which were formerly crowded together with other material are now given a plate by themselves, becoming consequently enlarged and more detailed. Benjamin expands, too, the text and detail on mouldings, differentiating now between Roman and Greek mouldings with graphic illustration derived from Peter Nicholson's *Principles of Architecture* (London, 1795-8). The Roman mouldings, as Nicholson points out, are composed of parts of a circle and straight lines, the Greek of parts of an ellipse, parabola, or hyperbole (Figs. 64 and 65).

"Although I have made use of the Roman ovolo and ogee in all the orders," writes Benjamin, "I do not generally use them in practice; the bending, or turning inward, of the upper edge of the Grecian, or quirk ovolo, when the sun shines on its surface, causes a beautiful variety of light and shade, which greatly relieves it from plane surfaces. . . ."  

This is the first subtle hint of a recognition of the different character of the Greek and Roman orders, and suggests for the first time the nascent interest in Greek form which spreads widely throughout the Republic within the next two or three decades. Aside from a few such rare instances, how-

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Figure 64. American Builder's Companion (1811). Plate II. Mouldings.
ever, Benjamin remains for the time being strongly "Roman." In fact, he holds out in favor of the Roman orders longer than many of his contemporaries when the issue becomes more clear-cut.

It is in those portions of the text carried over from the first edition that we see most clearly the changes in Benjamin's earlier style which five years extensive practice had led him to introduce into the second edition. Generally speaking he alters nearly all of the purely textual material, deleting certain portions and modifying and changing many of the rules and observations which he had already established. In the paragraphs devoted to the placing of columns he deletes those sentences which assert that a single column cannot be ornamental anywhere, nor one placed at the corner of a building. Similarly, having originally written that columns "never ought to be placed at equal distances from each other," he modifies this statement to read that "there are but few places where they ought to be placed at equal distances from each other...." In both of these selections there is a loosening of the restrictions imposed in the early edition and a recognition perhaps of the greater

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17 Benjamin, Asher. *The American Builder's Companion (Charleston, 1811)*, p. 47. One wonders what led Benjamin to introduce another slight change in the section on cornices
simplicity and independence of interpretation which characterizes the Bulfinch-Adam school. Of somewhat different character is the slight change of proportions which he urges for those columns used to support the galleries in churches. Having advocated in 1806 that these might be from twelve to fourteen diameters in height he now reduces this to twelve or thirteen. Again we recognize the trend away from the excessive Adam refinement and thinness of proportion characteristic of Paxton to the somewhat more substantial style of Bulfinch. This tendency continues through all of Benjamin's later work, culminating finally in the simpler and broader forms of the Greek Revival.

by which Thomas Amory's house, described in 1806 as "elegant," is now spoken of merely as "that very large house." (Benjamin. Op. cit., p. 57.)
Chapter IV
"The rudiments of architecture"

In 1814, three years after the appearance of the second edition of the American Builder's Companion, Benjamin published in Boston his third book, The Rudiments of Architecture. Two facts of interest stand out in this work. First, it is for the most part a perfectly frank rewriting of the American Builder's Companion, including most of the graphic material. Secondly, the title and portions of the preface can be traced to an anonymous English work entitled the Rudiments of Ancient Architecture . . ., printed in London in a second edition for I. and J. Taylor in 1794.

Having borrowed his title in brief, Benjamin goes on to explain his purpose in a short preface whose first sentence takes its introductory clause from the English work. "As custom has established the necessity of a preface," the American author declares, it gives him an opportunity of saying that "the want of a treatise on architecture, fully explaining the rudiments of the art, the price of which being

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1 The Rudiments of Architecture: Being a treatise on practical geometry on Grecian and Roman mouldings; shewing the best method of drawing their curves, with remarks on the effect of both. Also, on the origin of building, on the five orders of architecture, on their general and particular parts and embellishments, with examples for cornices, base and surbase mouldings, architraves, and stairs, correctly engraved on thirty-two copper plates.
so small, as to put it within the reach of every apprentice, will . . . be a sufficient apology for the appearance of this book.\(^2\) He has taken pains "to methodise and explain this work, in such a plain, and easy manner, that the young student may collect from it a general knowledge of architecture."\(^3\) This declaration and a warning that the "student" must commence at the beginning of the book and fully understand every example as he progresses make it clear that the work was meant to be a beginner's text. "He will be greatly assisted," continues Benjamin, "by reading the origin of building, and the parts which compose the five orders, their application and embellishments; also the orders themselves, which I have collected from some of the most celebrated books on this subject."\(^4\) The *Rudiments of Architecture*, despite its unoriginality of content, belongs to those writings which highlight the nationalistic temper of the Early Republic. The search for distinctive American building forms and above all the fresh insistence upon education as a means of national growth and strength are factors in the immediate background of the work. Aimed now at the student rather than the builder it can take its place among those other "first" books

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\(^3\) Ibid.

\(^4\) Ibid.
with an educational purpose which had their beginnings in this same period - among them Noah Webster's *Grammatical Institute of the English Language* (Hartford, Connecticut, 1783), Samuel Morse's *Geography Made Easy* (New Haven, Connecticut, 1784), and William H. McCuffy's *Eclectic Reader* (Cincinnati, Ohio, 1836).

The content, both text and graphic illustration, which Benjamin borrows from the *Companion* is devoted to practical geometry; directions for finding the ribs of plaster groins, for diminishing the shaft of a column, and for drawing the Ionic volute; designs for mouldings and for the orders themselves, as well as remarks on the origins of building, on pilasters, pediments, pedestals, impost mouldings, and stairway construction. In some cases the plates were taken over from the *Companion* with a change in text or the addition of altogether new remarks. Plates 20 and 21 in the *Companion* (cornice details) are carried over and become plates 20 and 21 in the *Rudiments* with the addition, however, of explanatory texts which do not appear in the earlier work.

In those few plates which are new there is the usual mixture of influences from standard English works together with original observations from Benjamin's own experience. Both plates 17 and 19 (directions for gluing up the Ionic capital and an angular view of the Corinthian capital), for example, are borrowed from Pain's *Practical House Carpenter*, plates
34 and 35, and in the works of Peter Nicholson, specifically plates 53 and 54 of the Carpenter's New Guide, we find prototypes for the stairway details in plates 30 and 31 (Fig. 66).\(^5\) Benjamin himself seems to be responsible for the remarks on columns which are appended to the plates on the orders and which point towards an increased sensitivity to visual effects. "I have, in imitation of the ancients, and likewise the moderns," he writes, "given certain rules for the height of columns, although experience has convinced me, that no determinate rule will answer in all cases for their proportion."\(^6\) They must be proportioned, he continues, according to the weight or apparent weight which they bear. It would be absurd to make stone columns which support, in addition to their entablature, a whole story of a brick or stone building as many diameters high as those which have only their entablature to support. There are situations, he notes, which require an enlargement of proportion, such as for example in

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\(^5\) In plate 23, a new plate devoted to banisters, urns, and keystones, Benjamin combines remarks which had appeared in the Companion with fresh observations of his own concerning the correct proportioning of balustrades. In plate 28 (cornices) the designs while new do not vary significantly in style from those in the Companion. Their texts again combine elements from the earlier work with comments peculiar to the Rudiments. In plate 29 (architraves, and base and surbase mouldings) the plate itself is new, but the text more or less parallels the text in the Companion.

\(^6\) Benjamin, Asher. The Rudiments of Architecture (Boston, 1814), p. 58.
Figure 66. Rudiments of Architecture (1514). Plate 31. Stairway construction.
steeples or cupolas "and all other situations when placed at a great distance from the eye." 7

There are no designs for houses or churches in the Rudiments, though two plates, 26 and 27, are given over to single frontispieces. The first of these, a frontispiece in the Tuscan order, is much like those in the Country Builder's Assistant, but in keeping with the new Bulfinch style the form is unembarrassed by profuse Adamesque detail. Benjamin notes that its parts are "very large and bold," for which reason he has chosen to let all the mouldings of the capital pass between the door and sash, "thinking that separation not too great for this order. . . . It would, however," he continues, "be proper, in frontispieces of the Ionic, and Corinthian orders, to reduce the distance, between the door and window . . . on account of the parts of those orders being much more delicate, than those of the Tuscan." 8

Plate 27 (Fig. 67) is the most elaborate of Benjamin's frontispieces to date and is labelled as a "Design for a Venetian Entrance, Embellished with a Doric portico." 9 The arrangement of a typical Early Republican doorway with eli-
Figure 67. Rudiments of Architecture (1814).
Plate 27. Frontispiece.
tical fanlight within a Doric portico appears to have been original with Benjamin. It is among those works of his which one finds popularly reproduced in New England, particularly in a countrified version in which the portico is reduced to a simple frame which does not project from the surface of the facade.

Benjamin includes one further new item at the very close of this work in the form of a table "shewing the weight of square bars of iron . . . found very useful for estimating the prices of iron work, such as fences, gates, window guardians, &c."¹⁰ This table, which plays a minor role in the Rudiments of Architecture, is of considerable significance when we consider the growing interest in iron work forms which will receive increasing attention in the later works of Benjamin and in the actual designs of the architects at that time. Benjamin's table is of equal interest in that it marks the first appearance in one of his works of any such table of information - a form which will become much more common in his latest works.

By the time he published his third work Benjamin had earned a secure reputation. The competition with foreign publications which his earliest books had faced was receding. In

contrast to the eighteenth century in which all major architectural publications were of English origin, the English manual in the nineteenth century dwindles to a thinner stream of highly specialized treatises catering to the rapidly developing interest in architectural engineering. Benjamin's appeal to the nationalistic spirit of the time, the untempered practicality of his works, and the unique quality of his observations in light of native conditions could not have failed to convince the "American builder" of their superiority over English handbooks, only a part of whose contents, as Benjamin himself observed, were of any use to our own builders.

As the volume of English publications diminished, the volume of Benjamin's works, especially in terms of republication, sharply increased. New editions of the Companion appearing in 1816, 1820, 1826, and 1827, and of the Rudiments in 1820 were followed in 1830 by the first of Benjamin's later works, the Practical House Carpenter, which seems to have gone through more editions than any other single architectural handbook published in this country in the nineteenth century. 11 From 1830 on to the middle of the century there was scarcely a year which did not see the republication of one, often two or three of these later works.

11 Hitchcock, Henry-Russell. American Architectural Books published in America before 1895 (Minneapolis, 1946). Hitchcock lists no other work republished as often as this.
The republication in April 1816 of the *American Builder's Companion* is indicative of the continuing popularity of this work, as are the subsequent reissues in 1820, 1826, and 1827. Benjamin advertises the work as a third edition, "corrected and enlarged," but neither the title nor text reveal very many alterations over the second edition of 1811. The plates remain entirely unchanged (with one minor exception in plate 46 where slight changes have been made for clarification), and the text has undergone only a few alterations in certain passages where material has been deleted, added, or changed in meaning. In plate 16, for example, in his proportions for the Composite order Benjamin reduces the height of the pedestal and diminishes the interval between the modillion blocks. There is a similar change in proportions in the placing of columns. Benjamin had declared in 1811 that there were few places where they ought to be placed at equal distances from each other or nearer to each other than one half of their diameter. He now drops the first qualification, leaving only the warning against a too confining placement of columns. Nearly all of these changes in proportions can be defined again, significantly, as moving away from Adamesque

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12 Further, in plate 25, in his design for impost mouldings, Benjamin suggests that the height be divided into from 20 to 23 equal parts (one of which will be devoted to the mouldings) rather than 20 to 24 as the same plate indicates in the 1811 edition. Similarly, in plate 31 he urges now that the frieze and cornice of an inside door be one seventh the height of the door rather than the one eighth suggested in 1811.
slenderness and attenuation of form towards the bolder proportions of the Greek classic forms which will soon make an appearance.

The next and fourth edition of the Companion, published in 1820, was also advertised as corrected and enlarged "with an additional plan and elevation of a church." With the exception of this new church design, however, which raises the number of plates from 59 to 61, the work remains in all other respects a verbatim reissue of the third edition of 1816. The new design, appearing at the end of the book on two plates numbered A and B (Figs. 68 and 69) resembles in certain details the Center Church on the Green in New Haven, Connecticut, for which Benjamin furnished the design. The most striking features of this church are the free-standing portico and formal Gibbsian tower which stand in marked contrast to any of Benjamin's earlier work (Fig. 70). The influence of Bulfinch reflected in the West Boston Church and in the house designs published in the Companion is replaced by a direct return to European inspiration, particularly Sir James

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13 The recent discovery of the contract for undertaking the work in 1813 has proved that Isaac Damon and Ithiel Town, long associated with the actual design of the work, were in reality the builders or contractors who carried out a design by Benjamin "which after a number of alterations was adopted as the model of the proposed building." (Report of Contractors, January 2, 1818, in which are enumerated the minor alterations introduced in the original Benjamin design. Kelly, J. Frederick. Early Connecticut Meetinghouses (New York, 1948), Vol. II, p. 13.)
Figure 68. Rudiments of Architecture (1820). Plate A. Church.
Figure 69. Rudiments of Architecture (1820). Plate I.

Church.
Figure 70. Center Church. New Haven, Connecticut. 1813. (Photo: Historic American Buildings Survey)
Gibbs' church of St. Martin's-in-the-Fields in London, illustrated in the opening pages of his Book of Architecture (Fig. 71). The New Haven church does have noticeable affinities with Bulfinch's New South Church in Boston, dedicated in December 1814. Bulfinch and Benjamin belonged to quite different social strata, however, and whatever their professional relationship it seems hardly likely that Benjamin had seen Bulfinch's design for the New South Church, assuming indeed that the design had been projected before Benjamin designed the New Haven meetinghouse.

The Center Church is much more elaborate than any of Benjamin's other churches in Boston, such as for example the Charles Street Church (1807) and Chauncey Street Church (1807), or the Fourth Meetinghouse in Northampton (1810). The commission itself, much more impressive than any of these, probably prompted him to go directly to one of the more elaborate English sources. The St. Martin's design is interpreted broadly in New Haven with the stages of the tower rearranged and details added from plate 30 of the Book of Architecture. Obviously the general character of the Center Church pleased Benjamin enough to incorporate many of its salient features in a modified design suitable for the average "American builder." In the design which he published in 1820 there is the same portico and round-headed entrances, smaller in size and proportion, together with a tower which, while it incorporates several Gibbsian motives, is greatly reduced in size
Figure 71.
James Gibbs.
Book of Architecture (1728).
and relieved of the complexity of both the New Haven meeting-
house and the English original. The design, incidentally,
like plate 28 of the first edition of the Companion, does
not appear to have been copied very widely. The author has
been unable to discover a single structure which is unques-
tionably derived from it in terms of major organization or detail.

In this same year, 1820, Benjamin's publishers, R. P. and
C. Williams, brought out a second and final edition of the
Rudiments of Architecture in all respects like the first edi-
tion except for the addition at the end of the work of the
same church design which had appeared in the fourth edition of
the Companion. The only difference between the two was the
inclusion in plate B of the Rudiments' version of a detail
drawing of the round-headed window designed for the body of
the structure. 14 Concerning the plan Benjamin notes, as he
had in the Companion, that the gallery is intended to "run
across the front only, and not continue along the sides of
the house, as is common in churches in this country." 15

The fourth edition of the Companion in 1820 was follow-
ed by two final reissues in 1826 and 1827. That of 1826 does
not vary from the fourth edition. The sixth and last edition,

14 The plates from the Rudiments have for this reason been in-
cluded (Figs. 68 and 68) rather than those in the Companion.

15 Benjamin, Asher. The American Builder's Companion (Boston,
1820), p. 93.
however, published in 1827, appears to be fully justified in its claims of correction and enlargement. The title page advertises "a plan and elevation of a church [that which had appeared in the 1820 edition], and nine additional plates, on handrails for circular stairs, and Grecian Architecture," making this the most extensive revision since the second edition in 1811. Even so, large portions of the work remain unchanged. The revision is concerned primarily with the new Grecian plates based on details from the Parthenon and other familiar Greek buildings, and with certain textual comments interpolated for the first time in connection with some of the earlier plates.

The work carries with it a publishers' advertisement explaining that "since the copy right of this work has been transferred to the present proprietors, they have with the advice of the editor and other eminent architects and builders, enlarged this work by additional matter and plates, on stairs, and on Grecian Doric and Ionic Architecture from the most celebrated remains of antiquity. . . ." 16 Actually, the material does not give evidence of any but Benjamin's continuing authorship. Unlike many of his contemporaries, however, Benjamin was somewhat hesitant in his adoption of Greek Revival detail. The advertisement strongly implies

16 Benjamin, Asher. The American Builder's Companion (Boston, 1827), Publishers' advertisement, (unpaged).
that the Greek Revival forms in this edition may have been "urged" upon him by his publishers who were perhaps somewhat more quick to perceive the trends of the times than Benjamin was himself. The novelty of much of this material to Benjamin is strikingly illustrated by the fact that he copies both his plates and text almost verbatim from Peter Nicholson's Principles of Architecture. 17 From still another work of Nicholson's, A Treatise on the Construction of Stair-Cases and Hand-Railing, published in London in 1820, Benjamin copies again two plates lettered H (Fig. 75) and I devoted to an explanation of geometric "solids" and their relationship to stairway construction. The new material concludes with plates K and L devoted to the church design introduced in 1820. New textual material occurring in connection with the earlier plates 20, 21, and 22 can be described as explanatory in character, designed to provide clearer understanding of the material shown and more precise directions for execution.

17 "In order to establish the proportions and true taste of the original Doric," writes, Benjamin, "the following example is taken from one of the most celebrated buildings now remaining of this order." (Benjamin, Asher. The American Builder's Companion (Boston, 1827), p. 58.) He follows this with the first of his plates, lettered A (Fig. 72), composed of details of the Parthenon copied literally, together with textual comments, from Nicholson's plates 130 and 132. The following plates devoted to cornice details (B), details of capital, echinus, annulets (C), Grecian Doric compared with the Roman (D) (Fig. 73), Grecian Ionic (E) (Fig. 72), details of the Temple on the Ilissus (F) (Fig. 74), and a plan of an angular capital (G) (Fig. 74), together with their texts, are copied directly from Nicholson's plates 131, 132, 162, 163, 206, and 207 respectively.
Figure 72. *American Builder's Companion* (1827). Plate A (in part). Doric order.
Figure 73. *American Builder's Companion (1827)*. Plates D and E. Grecian Doric, Roman Doric, and Grecian Ionic orders.
Figure 74. American Builder's Companion (1827). Plates F and G. Ionic order.
Figure 75. *American Builder's Companion* (1827).
Plate H. Stairway construction (formation of solids).
Figure 76. Practical House Carpenter (1830). Plate 2. Mouldings.
Benjamin stood now very near the height of his career. He was successfully established as a practicing architect with a not unimpressive list of works to his credit including the West Boston Church (1806), the Charles Street Church (1807) and the Chauncey Street Church (1807), all in Boston where he had also built a number of town houses on the Hill, the Fourth Meetinghouse in Northampton (1810-11), and the Center Church in New Haven, Connecticut (1813). Most important of all were his published works - three in number - which if there was any thought of trial connected with them had earned a popular approval. The American Builder's Companion carried with it the recommendation of a committee of the Boston Housewright Society dated September 8, 1806, which together with its subsequent reissue makes clear the measure of its popularity. While actual publication was still limited to Boston the influence of these latest works was by no means confined to New England. The decade of the 1820's marks the gradual penetration of Benjamin beyond the Hudson River into the south and new western states, and details from the Companion will be found as far west as Ohio.
Chapter V

"A complete development of the Grecian orders"

The three years from 1827 to 1830 serve as a pivotal point in the history of Benjamin's writings. The sixth edition of the American Builder's Companion in 1827 marks the last appearance of any of his first three works and represents his formal farewell to the Early Republican style. Despite certain differences in approach, growing out of his allegiance first to Pain and then Bulfinch, nearly all of the designs in Benjamin's first three works fall clearly under the influence of the Adam brothers. With the appearance of his fourth work, the Practical House Carpenter in 1830, however, the curtain is raised on a different style which continues throughout all of his later works.

The origins of the Greek Revival can be traced to several developments within the broader philosophic framework of the eighteenth century. Perhaps no single factor weighs so heavily as the emphasis within this period upon the theory of equalitarianism with all its political consequences. The Age of Reason which turned man's mind with new critical keenness to its own potentialities was responsible as well for new concepts of government based upon the reasonably co-ordinated efforts of free and equal men. Political theorists, raised in a climate of humanism which had long idealized ancient Rome, pushed their investigation further to include
the political philosophy of Greece to whom it had long been realized Rome was indebted in many particular ways. The republics which evolved in France and America in the late eighteenth century, while they may have owed little specifically to the republics of Greece and Rome, were heavily indebted to the inspiration which these long dead governments furnished in terms of popular concept. Political theorists and laymen alike with unexamined enthusiasm projected their own evolving concepts into a Classical dream and borrowed in their fashions and art the dress, the names, and the spirit of the Roman. The rediscovery of Pompeii and Herculaneum in 1755 served powerfully to bring the Classic scene before later generations as something almost reborn, alive, and human. The Roman citizen became the model for the perfect republican, and works such as McGuffey's Reader, first published in 1836, provided the younger mind with stirring classic orations calculated to fire the enthusiasm and keep constantly alive the ideal of the Roman fathers. It was no idle fancy either which led Horatio Greenough to model in stone the father of his own country nude to the waist and clothed in a Roman toga.

Throughout the latter part of the eighteenth and first one or two decades of the nineteenth century devotion to the long accepted Roman ideal remained unchallenged. In France it received fresh impetus at the hands of Napoleon whose despotic rule and ornate Arc de Carrousel in Paris paid frank
tribute to the military authority that was Rome. Yet even as the "Roman" revival flourished corrosive influences were at work upon its armor. Archeologists such as the German Winckelmann and the French Hubert Robert, for example, keeping pace with theorists who sought to resurrect the Grecian political fabric, turned their attention during the middle and later eighteenth centuries to Greece as a progenitor of Rome and therefore a logical field for their research. One senses, too, a not unnatural slackening of interest in the Roman scene which had been so thoroughly explored over a period of several centuries, and a fresh quickening of enthusiasm for the unharvested treasures of Attica. As early as 1762 two Englishmen, James Stuart and Nicholas Revett, fired by this enthusiasm for the antiquities of Greece, published the first volume of their monumental four volume work, the Antiquities of Athens. Profusely illustrated with superb engravings of both the buildings and sculptural adornments of the most celebrated structures in Athens, the influence of this work upon later writers and upon the developing interest in Greek culture was incalculable. Other archeologists and travellers contributed to the increasing store of information upon Greece—William Wilkins, William Pars, Richard Chandler, and Thomas Major, but the credit for the initial impetus and most lasting influence must go to the travellers Stuart and Revett.

The use of Greek classical orders and detail in build-
ing was sporadic at first. The first recognized example of
the style in England was a small temple designed in 1758 by
the "Athenian" Stuart, as he was called, and placed in the
garden of Lord Lyttelton's estate at Hagley-Worcestershire.
In this setting it was clearly to be conceived of as an ar-
cheological fancy in much the same way that ruined abbeys
were simulated during the same period. The first building
in this country in which one can trace the unmistakable char-
acter of the Greek orders, the Bank of Pennsylvania in Phila-
delphia (1796), was designed by the well-travelled Benjamin
Henry Latrobe. Latrobe's bank is not an archeological oddi-
ty. It is, as Talbot Hamlin points out, "a direct and uni-
fied conception in which plan, exterior, and interior are all
controlled by the needs of the problem. It is unlike any
bank built before the Revolution, it is unlike any English
prototype, and it is certainly unlike any known classic struc-
ture."¹ Thus in 1798, before the turn of the nineteenth cen-
tury, an American architect symbolized the independence and
unique flavor of the American Greek Revival in which archeo-
logical interest in the orders and decorative detail of an-
cient Greece are coupled with a fresh approach to the prob-
lems of architectural form.

But one swallow does not make a summer and the continu-

¹ Hamlin, Talbot. Greek Revival Architecture in America (New
York, 1944), p. 31.
ing flow of cheap architectural publications from England in the "Roman" style, together with, perhaps outweighed by, Benjamin's own early works in the same style, set the standard for popular taste and left for the progressive (and usually more travelled) few the problem of new form. Yet interest in Greece was by no means absent in the popular mind. As America pushed westward in these early years of the nineteenth century she left behind her a trail of newly founded cities whose names - Troy, Ithaca, Syracuse, Ypsilanti, Athens - all attest to the presence of the Greek spirit. With the death of McIntire and as Bulfinch and Jefferson passed into old age, as the new and younger group of architects headed by such figures as Strickland and Mills came to the fore, the stage was being set for a change of scene. Following close upon the outbreak of the Greek war for independence in 1821 came a sudden flood of illumination which brought this scene sharply into focus. Probably no other single factor was as important in the popular shift from Early Republican to Greek Revival forms in the late 1820's. America had but recently won her own war for independence and was very much concerned with the problems of republican government. Within this context the interest suddenly centered upon the little known peninsula in the Mediterranean and the accounts of her struggles as heroically reported by Lord Byron, who lost his life in that contest, served to stimulate a widespread thirst for more information about her important cultural remains. Fortunately the
works of Stuart and Revett and their followers were already at hand to satisfy this curiosity. By the third decade of the nineteenth century a popular transition to the Greek Revival was well under way. "Since my last publication," writes Benjamin in the preface of the Practical House Carpenter in 1830, "the Roman school of architecture has been entirely changed for the Grecian."\(^2\)

Benjamin had included some few Grecian details in the last edition of the American Builder's Companion, but not until this work in 1830 does he come over whole-heartedly to the new style. In this he cannot be numbered among the more progressive architects of his time - men like Mills and Strickland and Iatron whose interest in Greek classical forms dates back some twenty or thirty years earlier. In fact, his endorsement of the new style is not entirely unmitigated. "I confess myself to be an admirer of Grecian architecture," he writes, "yet I am not disposed to condemn the general proportions of the Roman orders, none of which, except the Doric, differ essentially from those of the Grecian."\(^3\) Benjamin was fifty-six when he came to publish the Practical House Carpenter. One could hardly expect that he would throw himself into the new style with all the untemper-

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2 Benjamin, Asher. The Practical House Carpenter (Boston, 1830), p. iii.

3 Ibid.
ed ardor of youth. Yet the *Practical House Carpenter* was the most popular of all Benjamin's seven works, and to many, particularly rural builders, was perhaps their first taste of the new Greek mode.

Benjamin's later works remain flavored almost to the last by his strong "Roman" background, so that we cannot seize upon purity of form as an explanation for the widespread popularity of the new work. Perhaps a large measure of its appeal can be traced to just the opposite cause, the fact that Benjamin includes both the new Greek and earlier Roman orders based on Sir William Chambers, in this way appealing to all shades of opinion. "I have endeavored to divest myself of any prejudice I might have for or against any school of architecture," he writes, "and to select from all the books on that subject, those parts which I thought would best promote my object."4 Within the second paragraph of his preface, however, Benjamin launches into a critical comparison of the two Classical systems in which despite his claims of impartiality the Roman can boast of little glory. "Very

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4 *Ibid.*, p. iv. Having no examples of Greek private houses, Benjamin observes, we do not know whether or not they used the same proportions as in their temples. He quotes several of the prominent temples as examples of proportions which, when applied to the private house, are completely out of scale, and for that reason he asserts "that the general proportions of the Roman order, come nearer to our practice in private buildings than the Grecian proportions." (Benjamin, Asher. *The Practical House Carpenter* (Boston, 1830), p. 103.)
few things of the same nature differ more than the Greek and Roman creeds of the orders," he writes. "The Roman orders are chiefly composed of small and ungraceful parts, and the mouldings are made up of parts of a circle, which do not produce that beautiful light and shade so happily effected by the Grecian mouldings. . . ."5 (Fig. 76)

We recognize, then, as a major factor in the popularity of this work the emphasis which it did place upon the new style.6 Breadth of coverage together with an everwidening recognition of Benjamin's pre-eminence in the field of the builders' guide was probably a contributory factor in the popularity of his fourth work, but it was the new Greek material which appears to have recommended it so strongly to the many builders, eager to master the rudiments of the new mode. "The favorable manner in which my former publications on Architecture have been received," he writes, "and the want of a practical treatise on that subject, adapted to the present style of building in our own country, are the principal motives which induce me to place this work before the pub-

5 Benjamin, Asher. The Practical House Carpenter (Boston, 1830), p. iii.

6 The complete title of the new work, published in Boston in 1830, places strong emphasis upon the Grecian content: The Practical House Carpenter Being a complete development of the Grecian Orders of Architecture Methodised and arranged in such a simple, plain, and comprehensive manner, as to be easily understood; each example being fashioned according to the Style and Practice of the present Day.
Figure 77. Practical House Carpenter (1830). Plate 20. Composite order.
lic."  Towards the close of the work he includes a carefully worded appeal to the "many ingenious builders, who for a long time rigidly adhered to the Roman system of the orders, particularly those who live at a distance from any of our large cities. . . ." These, he continues, may look upon the general recommendation of the Grecian system of the orders as a whim of his own, and without taking the trouble to give it a fair trial "reject it as an innovation on their former practice." Fearing this "and desiring to extend as far as possible the usefulness of the Grecian orders . . . I have thought it best," he concludes, "to give the opinions and reasoning, on the Grecian and Roman orders, of Mr. James Elmes, a distinguished English architect, who . . . has had the advantage of visiting the most celebrated temples, both in Greece and Rome." There is little here of the spirit of apology, rather a strong appeal to any who might be conservative in their taste. In Mr. Elmes' remarks which follow no one could help but feel that the Roman orders at best come off a rather poor second or third.

One also discovers in this work, despite continuing in-

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7 Benjamin, Asher. The Practical House Carpenter (Boston, 1830), p. iii.

8 Ibid., p. 99.

9 Ibid. The remarks which Benjamin quotes can be found in Lecture IV, pp. 181 ff. in James Elmes' Lectures on Architecture . . . (London, 1821).
fluences from England, a seemingly greater amount of original observation which in terms of its uniqueness could not have failed to contribute to the overall popularity of the work. And of particular importance is Benjamin's continued appeal to the "practical builder." "I have . . . been very particular in the descriptive part of the orders;" he writes, "which care, together with that I have taken in drawing and representing the most difficult parts on a large scale, will, I am persuaded, make them so plain and easy that a workman of ordinary capacity can make himself perfect master of the orders without the aid of an instructor." 10 The author has taken pains, he continues, to translate his material borrowed from others into terms more readily understandable to the American builder, a practice which had been implied in his earlier works but not explicit. In the material on stairway construction drawn from Nicholson, for example, Benjamin writes: "I have made the drawings on that subject somewhat different from his, and have explained them in my own way. I therefore believe that this book will be found to contain the most direct and best method of handrailing, and will, I am persuaded, be more useful to the stair builder than any of his books on that subject." 11 Three basic factors, then,

10 Benjamin, Asher. The Practical House Carpenter (Boston, 1830), p. v.

11 Ibid., p. vi.
stand out in relation to this work: first, the new stylistic material, wisely interlarded with current practices; secondly, the increased original observations and adaptations of foreign practice to native needs; and thirdly, a reiterated appeal to the practical builder, resulting in a simple, direct, and fulsome explanation of detail and responsible, too, for the expansion of such areas as practical carpentry. In terms of all of these we may take the measure of the popularity of this work which by the time of its last issue in 1857 had gone through eighteen editions.

The table of contents promises that in basic form and organization the work has undergone no radical change whatsoever. Treatment of the orders, porticos, frontispieces, doors and windows, base mouldings and architraves, chimney pieces, trusses for roofs, and stairs, together with the other usual features, engraved on sixty-four plates, follow one another in that order as before. The change is largely in the expansion of material on the orders, the transition to a new style, and an increased emphasis upon original observation. We should not overlook, however, a continuing influence from the English publication and from Sir William Chambers in particular.12 Benjamin even expands the scope of his sources, in-

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12 In the Roman orders Benjamin has drawn principally upon Sir William Chambers or upon well-known antique examples. Having shown both an example of the Doric and Ionic from
introducing at least two or three new authors. His first example of the Doric order, for instance, is taken from the temple of Theseus in Athens "exactly corresponding to the measures of that celebrated building by Stuart and Revet. . . ."[3]

In text, too, Benjamin draws upon an entirely new source to which he gives credit in his Preface: The Edinburgh Encyclopedia, an English compendium of knowledge arranged in encyclopedic form. Thomas Telford's article on Civil Architecture

Sir William (with minor simplifications such as eliminating the ox skulls in the Doric entablature and the ornamental facing of the Ionic moldings), and having quoted at length from the Treatise on Civil Architecture where before he had paraphrased, he proceeds to the Corinthian and Composite with examples taken from the Temple of Jupiter Stator at Rome and the arch of Titus respectively (Fig. 77). His choice of a Roman Corinthian he explains in terms of its little use by the Greeks for which reason, he concludes, "the Roman examples are generally esteemed the most perfect. . . ." (Benjamin, Asher. The Practical House Carpenter (Boston, 1830), p. v.) These remarks on the Corinthian order are embellished, too, with references to its interpretation by Palladio, Scamozzi, Serlio, and Vignola, a fairly clear indication again of recourse to De Chambray's Parallel. As for further influence from the more familiar authors, the title of this work itself may have been borrowed consciously from Pain's work of the same name. At least one of Benjamin's plates in this work (24 - directions for gluing up a column) (Fig. 78) is quite clearly influenced by plate 16 of Pain's Practical House Carpenter. With the works of Nicholson, too, there is some continuing influence. In plate 19 Benjamin copies a Corinthian capital from plate 104 of Nicholson's Builder's and Workman's New Director, while Nicholson's plates 62 through 68 could well have furnished him with the material on window construction. In stairway detail Benjamin made use of Nicholson's Treatise on the Construction of Stair-Cases . . . ; he adds, too, a debt of gratitude to "Mr. Charles Roath, and to Mr. Abijah S. Johnson, both eminent stair builders of this city [Boston], for their practical advice. . . ." (Benjamin. Op. cit., p. vi.) Insofar as Benjamin has redrawn much of
Figure 77. Practical House Carpenter (1830). Plate 20.
Composite order.
Figure 78. Practical House Carpenter (1830).
Plate 24. Glueing up of column.
furnishes most of the historic-descriptive comment which Benjamin takes over bodily for an explanation of his own Grecian system and the "decorative parts of architecture."\(^{14}\)

There are minor alterations only where needed for simplification of the original text, although in at least one instance the deletion of a sentence or two betrays a lack of critical discernment on the part of the American author. From Telford, in this case, comes an account of the origins of the Doric and Ionic orders according to Vitruvius together with the

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the material from Nicholson it is somewhat difficult to trace direct relationships. Plate 16 of the Treatise bears a strong resemblance to plate 62 of the Practical House Carpenter (Fig. 79) while in the majority of other plates on stairs the similarity is reduced to adaptation only, generally in the direction of greater simplicity.

\(^{13}\) Benjamin, Asher. The Practical House Carpenter (Boston, 1830), p. iv.

\(^{14}\) Pedestals, arcades, balustrades, antae, pilasters, colonnades, pediments, attics, and niches are discussed in terms of their history, use and proportioning by "modern" architects, and of their proper use in the architecture of the present day with no reference to any particular style or mode. In this Benjamin makes good his claim of divesting himself of any prejudice. He departs from Telford only occasionally with practical interpolations of his own such as for example in the paragraphs on pediments in which he notes that when pediments are to be covered with either slates or shingles "they cannot with safety be less in height than two ninths of their base." (Benjamin, Asher. The Practical House Carpenter (Boston, 1830), p. cl.) The comparative table of orders shown in page 44 is also taken from Telford. The comparative table of Doric proportions illustrated on page 16, however, is taken from Edmund Aiken's Essay on the Doric Order of Architecture . . . (London, 1810), though Benjamin may have copied this feature from Elmes' Lectures where it is also reproduced.
Figure 79. Practical House Carpenter (1830). Plate 62. Stairway construction.
customary attribution of masculine and feminine character to each and the suggestion of an origin for the Ionic volutes in the curls of a woman's hair. Actually, says Telford, the order seems to have little relation to the human frame and any such association would seem to be a "figurative expression, adapted by this lively people, in comparing these orders after they had been established."\(^{15}\) The most simple explanation, continues the English author, is that the volutes are modelled after the bark of a tree crushed down by the weight laid upon an upright post. Benjamin bypasses this somewhat more critical explanation and copies only those sentences which include Vitruvius' theory of origin in a woman's curls.

Greek Revival architects and modern historians alike have called attention to the essential independence which underlies the adaptation of Grecian detail to nineteenth century architectural forms in the United States. Judging from Benjamin's plates in this and later works such independence was not limited to adaptation alone. Here in the midst of the orders which he borrows from classical antiquity there are two original composite examples. The first of these, a Doric order, combines elements from the Theseion and Sir William Chambers' Doric, "but chiefly from the Temple of These-

us, which I believe better adapted to the practice of our own country, at the present time. . . ."\(^{16}\) The second, as Benjamin notes, is one of his own compiling "which is chiefly Greek, the capital being taken from the Ionic temple on the river Illysus at Athens."\(^{17}\) In imitation of Palladio and other modern architects the column has been made nine diameters in height, including the base and capital, and has been given an Attic base, a reflection again of deference to practical Roman proportions.

Practical geometry is reduced in the Practical House Carpenter to two plates, in one of which there are directions for describing the ellipsis profile, so important in the Grecian orders. Major interest, however, centers upon the designs for frontispieces, chimny pieces, and upon finish detail, interpreted now in the new Grecian mode. The door-way compositions show a typical squaring up of forms, an increasing width of mouldings, and a moving away from the lightness of the earlier Adamesque designs.\(^{18}\) One senses, too,

\(^{16}\) Benjamin, Asher. The Practical House Carpenter (Boston, 1830), p. iv. The only Roman characteristics, he notes, are the annulets in the capital and the drops below the triglyphs, in which case he feels that those of the Grecian capital were "too small and trifling for the remaining part of that beautiful composition. . . ." (Benjamin, Op. cit., p. 25.) Benjamin also makes the proportions of this order somewhat lighter than the Greek with a column height of seven diameters.

\(^{17}\) Benjamin, Asher. The Practical House Carpenter (Boston, 1830), p. v.
for the first time in this work a relaxation of the hard and fast rule. The spirit of independence which releases the mind of the Greek Revival architect begins at last its tardy work upon Benjamin's style. In the portico shown in plate 30 he admits that he knows of no determinate rule "by which the general proportions of a frontispiece can be ascertained, in all situations. He who takes the most comprehensive view of all the circumstances connected with the building to which the frontispiece is to be attached, will be the most likely to produce the most successful effects. . . ."

In plate 28 (Fig. 133), another frontispiece, and perhaps the most widely reproduced of all Benjamin's doorway designs (see chapter IX), he returns to a suggested proportion of seven diameters in height, adding that seven and a half or eight may be substituted if one wants a higher proportion.

In his designs for windows (Fig. 80), fences (Fig. 81),

18 In plate 27, for example, in contrast to the suggestion of three years earlier that the width of the door be divided into seven parts, one of which would then be given to the architrave, Benjamin now advises a division into five parts, one of which will become the architrave.

19 Benjamin, Asher. The Practical House Carpenter (Boston, 1830), p. 66.

20 The increased height in relation to width is a noticeable characteristic of the Greek Revival style and appears also in the plates devoted to windows. Here Benjamin urges that the height ought to be about twice the breadth, and increases this height still further in the case of "elegant apartments," the sills of whose windows, he notes, are frequently as little as seven or eight inches from the floor.
Figure 80. Practical House Carpenter (1830). Plate 31. Window.
Figure 81. *Practical House Carpenter* (1830). Plate 33. 
Fences.
cornices (Fig. 159), mouldings, and architraves (Fig. 82), Benjamin reveals sharply the new stylistic trend. Lightness, complexity of profile, and the sinuous line give way to the broad and simple, and to the angular. The festoon, urn, and reeding are replaced by the guilloche, honeysuckle, and fret and mouldings which take their cue from the Grecian orders themselves. The mitred architrave gives way to the corner block, ornamented with a rosette, palmette, or "diamond" panel (Fig. 142), and the base board takes on an importance of its own. "As a very good fashion seems now to prevail," he writes, "of not using either dado or sur-bases, it is necessary to make the base somewhat larger than it was when they were in fashion." 21 In design this feature follows the trend of the times in a composition of bold angular lines and wide cyma recta profile.

The chimney pieces in plates 49, 50 (Fig. 83), and 51, "formed suitably for marble, but may be constructed of wood," 22 reflect a growing emphasis on materials other than wood or stucco. Marble can be found in the more pretentious eighteenth century house but was not common until the nineteenth century. "In the decoration of chimney pieces," writes Benjamin, "the wildest fancy has been indulged. Their composition should

21 Benjamin, Asher. The Practical House Carpenter (Boston, 1830), p. 73.
22 Ibid., p. 75.
Figure 82. Practical House Carpenter (1830).
Plate 47. Architraves.
Figure 83. Practical House Carpenter (1830).
Plate 50. Chimney piece.
conform to the style and character of the room in which they are placed, whether of marble or wood. If of wood, he continues, they may be painted black and varnished which will give them a neat appearance and render them less liable to be soiled with smoke than when painted a light color. One must admire in Benjamin the capacity to conform to his own dictates. Certain it is that he has disciplined the indulgence of his own fancy in the design of the chimney pieces here shown, all of which limit themselves to the simplest use of plain or fluted pilasters (occasionally a freestanding column) with entablatures whose only embellishment is the fret.

In keeping with the growing interest in theory and practice of construction there is a new emphasis on the subject in Benjamin's fourth work, an emphasis which will absorb even more attention in his later works. Impetus in this direction was furnished by imported treatises dealing with experiments in the field of engineering by both French and English

23 Ibid.

24 He does, however, give some rather careful and detailed instructions on the proportioning of fireplaces to rooms. It is difficult to lay down any precise rule, he notes, but a fireplace cannot be made much less than three feet in breadth if the room be not more than twelve feet square, and should never exceed three feet nine inches in any room, whatever its size. Where open fireplaces are used for burning coal the grate should be set about one inch in length for every foot of length in the room.
theorists. In the Practical House Carpenter there are four plates with details of trussed roofs, length and backing of hip rafters, methods of framing floors, trussed partitions, and framing of joints, together with observations on the relationship and size of units, and strength of materials. Some of these designs recall his earlier work. The roof construction in figure 2 of plate 53 (Fig. 84), as he explains, "is very ancient...; it has been executed with great success for churches, theatres, and other large buildings, and is the least expensive and the best constructed plan of any now in use."25 In plate 55 (Fig. 85), however, he urges the carpenter to follow a new method whereby the floor is framed with widely spaced joists in place of the older and more common small joists and larger bearing timbers. "The expense of this kind of floor," Benjamin writes of his proposal, "is about one third less than that of any other kind, and it certainly is more equal in its strength than is the timber and joist floor."26 In support of this statement he cites experiments made by English engineers which prove a greater power for the newer form. Here again is reference to new English source materials. Benjamin draws his theory of the single joisted floor, together with the data on the experiments performed in connection with it, from Thomas Tredgold,

25 Benjamin, Asher. The Practical House Carpenter (Boston, 1830), p. 78.

26 Ibid., p. 82.
Figure 84. *Practical House Carpenter* (1830). Plate 53. Roof construction.
Figure 85. Practical House Carpenter (1830). Plate 55 (in part). Floor construction.
the English engineer, whose Elementary Principles of Carpent-
try, published in 1820, ranks as one of the pioneer efforts
in this area. In his general observations on carpentry Ben-
jamin furnishes advice from Tredgold and from "many practi-
cal carpentry books," but speaks as well from personal ex-
perience and acknowledges himself indebted to "Mr. Mark Ware,
and to several other of my friends, who are eminent master
carpenters of this city, from whom I have received valuable
assistance."  

Benjamin shows no designs for either houses or churches
in this work, though he does include a design for a pulpit
with Grecian detail (Fig. 86) and somewhat lengthy remarks
on churches. "A building erected for public worship," he
writes, "should . . . be so contrived as to produce in the
beholder serious and devotional feelings."  

This effect is obtained by composing the building of large, bold, angular
outlines, by continuing the entablatures and cornices un-
broken over the columns and pilasters, and giving all the
decorations a large and grave appearance, "excluding all or-
namenit composed of slender, curved or winding outlines,
which are expressive of lightness and gaiety," a concise
statement of Greek Revival purpose and practice in design

27 Ibid., p. vi.
28 Ibid., p. 96.
29 Ibid., p. 95.
Figure 86. Practical House Carpenter (1830). Plate 63. Pulpit.
which reveal the extent to which Benjamin had been weaned from his earlier practice. It has been common practice to make two stair cases to a pulpit, he continues, a custom which cannot be justified by the rule of proportioning the means to the end, or any other except that of uniformity. "There does indeed seem to be a great impropriety in erecting two staircases, where only one person is to ascend, and who cannot of course use but one at the same time; but it is difficult to preserve the necessary uniformity without two . . . ."\(^{30}\) He urges that they make the least possible show and "that they may appear as small in the composition as possible."\(^{31}\) Admittedly the architect of the period was faced with an embarrassing problem in having to proportion the Greek orders, originally associated with a temple form, to buildings of totally different character. In the case of churches particularly, limited usually by society funds, it would be necessary to include a gallery to avoid enlarging the floor space. This arrangement would call for two tiers of windows "unless, by making one tier of windows, he submits to the awkward appearance of the gallery crossing them."\(^{32}\)

The work concludes with a glossary of terms and a cogent

\(^{30}\) Ibid., p. 97.

\(^{31}\) Ibid., p. 97.

\(^{32}\) Ibid., p. 101
restatement of the independence of action which essentially characterizes the Greek Revival despite its copy of Greek forms. In this no one can accuse Benjamin of unimaginative imitation or adaptation of purely alien form. "It seems to be supposed, by many persons," he writes, "that the Grecian orders must be executed without any deviations from the original examples." Of such persons he would ask just what example they would choose, "for it is a singular fact that no two can be found which agree, either in their general proportions or in their details." How can one then bind himself to a servile imitation of the general proportion of any of those examples "unless they happen to suit our purpose." He urges the study of all architectural styles, particularly the Grecian and Roman, and in determining the general effect of a building to endeavor to proportion the means to the end. But in the details, he notes, "I believe no one who thoroughly understands the two systems, can hesitate for a moment in giving his decided preference to the Grecian."

This work, the most popular of all Benjamin's publications, went through eighteen editions in twenty-six years.

33 Ibid., p. 103.
34 Ibid.
35 Ibid.
36 Ibid., p. 104.
37 The title page changes by degrees, and as finally codified
The text remains substantially the same in all of the later issues with one or two exceptions in which additional material has been interpolated or modified to keep pace with contemporary developments in style. In the 1832 edition, for example, the text for certain of the plates is expanded to include more precise explanatory detail. In figure 2 of plate 13 Benjamin also suggests a modification of one of the orders. Although the example is neither Doric, Ionic, nor Corinthian, he writes, "it is beautiful in both character and effect." He feels, however, that a modification of the original in some of its details would render it "more conformable to modern practice than it would otherwise be." With apologies to its "ancient authors" he proposes the omission of the cimatiun "because the capital is too abundant in mouldings. . ." the omission of the guttus of the regula "because they are so small, and, when placed in a row, produce the idea of finery rather than of dignity to the composi-

in the edition of 1843 drops the table of contents listed before and announces in abbreviated form its content: The Architect, or Practical House Carpenter Illustrated by Sixty-four engravings, which exhibit the orders of Architecture, and other elements of the art; designed for the use of carpenters and builders. All subsequent editions retain this simplified title.

38 Benjamin, Asher. The Practical House Carpenter (Boston, 1830), p. 38.


40 Ibid.
tion. ...," and lastly, a greater projection for the bed-mould and a lesser height for the fillet with which it is crowned. In all of this we see a constant modification tending directly towards Grecian simplicity and away from complexity of form. Benjamin's later works continue in this direction with only brief lapses into the decorative exuberance reminiscent of his work in Windsor, Vermont. The application of over-abundant Greek floral detail to forms essentially heavy and severe was not successful, and while present in Benjamin's work does not, happily, dominate his later style. Perhaps his own increasing interest in theoretical matters saved him from this peril.

41 Ibid.
Chapter VI
"Principles and practice"

Turning to Benjamin's three final works there is a steady unfolding of certain definite trends which are all present in the Practical House Carpenter. The first of these later writings, The Practice of Architecture, was published in Boston and New York in 1833. The full title described the work as The Practice of Architecture Containing the five orders of architecture and an additional column and entablature, with all their elements and details explained and illustrated. For the use of carpenters and practical men . . . .

This work continues in the direction of the Practical House Carpenter towards a greater emphasis on practical matters, and towards an expanding text based on widened personal observation and a desire for clarity. "I have endeavored in this Treatise," he writes in the first paragraph of his Preface, "to avoid a defect which is very generally complained of in books of this kind; that is, a want of particularity in the details, and of a clear, simple explanation of them."¹ The sixty plates of graphic material are almost entirely Grecian now, superficially at least, with only a

¹ Benjamin, Asher. The Practice of Architecture (Boston, 1833), p. iii.
trickle of Roman material to recall the author's earlier allegiance. In most respects the Practice of Architecture is not unlike the Practical House Carpenter in form and content, and in some cases material is carried over from one to the other.² Basically the appeal in both is to the country carpenter whose needs Benjamin interprets as a thorough grounding in the practical part of his business. "Those Carpenters in country villages, who aspire to eminence in their business," continues the author in the Preface of his fifth work, "having no Architect to consult, are under the necessity of studying the science thoroughly and without a master. To them, therefore, is this book particularly adapted. . . ."³

Benjamin by no means neglects the problem of architectural form. While architecture has certainly improved within recent years, he observes, there are still "a large proportion of the vast number of buildings which meet the eye, of all classes and sizes, and constructed for all purposes . . . totally destitute of architectural taste."⁴ This does not arise from parsimony, for it is not uncommon to see large

² There is continuing material quoted from Sir William Chambers, for example, but generally speaking the influence of that English writer is now largely reduced and will shortly disappear altogether.

³ Benjamin, Asher. The Practice of Architecture (Boston, 1833), p. iii.

⁴ Ibid., p. iv.
buildings overloaded with expensive and misplaced finery which forms anything but ornament. "Buildings of this class, which under skilful hands might have become proud monuments of public taste, are mortifying and repulsive objects to those who take an interest in the science of Architecture."\(^5\)

Another practice which he deplores is the habit among those "who would not think themselves capable of instructing a Carpenter in the art of planing or sawing boards, or a bricklayer in laying bricks,"\(^6\) who nevertheless undertake the much more difficult task of becoming their own architects. Such persons proceed to build without any fixed system, unlooked for difficulties soon arise which lead to expensive alterations, and the harmony of the building is destroyed. The evil unfortunately is not limited to private buildings. The committees selected to superintend the erection of public buildings are apt to cramp the invention of the architect by their fancies "so that specimens of the taste of some member of the committee can usually be discerned by a skilful eye, among our most scientific compositions."\(^7\) But the evil is certainly decreasing, he notes optimistically, and having unburdened his feelings in the matter he returns

\(^5\) Ibid.
\(^6\) Ibid.
\(^7\) Ibid.
immediately to the more practical matters with which the
work is largely concerned. "The principles and practice of
the science are developed, in the following pages," he
writes, "in a detailed and systematic manner." 8

The work opens with an expanded section on practical
geometry, including directions for drawing the Greek and Rom-
an mouldings. In plate 2 the carpenter is instructed in the
application of conic sections to mouldings, for it is well
known, writes the author, "that any Grecian moulding is in-
debt ed to some one of the conic sections for its beautiful
variety of outline . . . ." 9 Benjamin urges that the student
observe first the outlines of his mouldings as affected by
light and shadow, then study the shape and fitness of the
plain surfaces. "After this, he must study them collective-
ly, by frequently drawing and intermixing their details; and
he will then be able to discover the good and bad effects of
his compositions, and improve his taste." 10

Benjamin expands his explanatory text for the orders,
mentioning all five including the Roman, but with the excep-
tion of the Tuscan and Composite, deals only with the Greci-

8 Ibid.
9 Ibid., p. 11.
10 Ibid., p. 16.
an orders in his plates. We know only that of their origin which is related to us by Vitruvius, he explains, "a writer whose correctness in many parts is much questioned." His account of the origins of the orders, Benjamin observes in contrast to his unexamined acceptance of Vitruvius in earlier works, has the air of fable rather than historical fact. At all events, "the examples most worthy of imitation are those of Grecian origin, except in a few of the details, where the Roman are preferable." His mature disrespect for Roman practice is clearly implied when he speaks of the Romans as having borrowed from the Greeks the original proportions of the Corinthian as well as the Ionic, "though it did not, like the latter, degenerate in their hands."

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11 Ibid., p. 18.
12 Ibid., p. 24.
13 Ibid. In plate 10 Benjamin includes as before a design for diminishing the shaft of a column in the Roman manner, "introduced here, because custom seems to require it..." (Benjamin, Asher. The Practice of Architecture (Boston, 1833), p. 40.) He quickly adds, however, that he does not know of any situation where the Grecian system is not decidedly preferable. He discusses a few Roman Ionic orders with scant interest and concludes with one final example mentioned not as an example worth of imitation, "but that we may avoid it." (Benjamin. Op. cit., p. 46.) In his remaining material, based on the decorative parts of architecture, Benjamin shows an increasing affinity for the Grecian style and a tendency to de-emphasize those portions whose basic character is Roman. His remarks on pedestals, for example, are reduced over the last work for they seem to belong to the Roman system and were seldom found in Greece. He gives a few rules for proportioning pedestals together with designs for bases and cornices for four different pedestals, but generally his heart isn't
This disrespect was by no means unqualified, however. In one rare mood of praise Benjamin admits that the Roman examples of the Corinthian order "are as much superior to the Grecian, as the Grecian examples of the Ionic are to the Roman," and he defends both the Tuscan and Composite in the face of many of his contemporaries who denied them the rank and name of an order. There can be no particular advantage, he argues, in depriving these "ancient compositions" a name and rank which they have held for many centuries. In the case of the Composite, he adds ironically, "this, in fact, is with us the only honor paid it, as we seldom or never employ it in any of our structures." Benjamin's earlier taste for Roman forms was clearly too strong to allow any complete alignment with the Greek Revival purists.

In the design of the orders themselves Benjamin's predilection for Grecian forms leads him to introduce Grecian Doric detail into even the Roman Tuscan order. The order itself is taken basically from Palladio but is Grecianized by the omission of base, by the substitution of a Grecian echin-
us, and by an architrave with one fascia whose crowning moulding is in the Grecian mode. The remaining orders (Figs. 87 and 88) are standard classic examples with the usual description of both historical background and characteristic proportion. The remarks seem to come primarily from Benjamin's own pen, but he draws heavily again upon the Edinburgh Encyclopedia and upon Peter Nicholson's Principles of Architecture for much of his factual data. The Doric remains eight diameters high "in imitation of Roman and modern practice...", and the number of annulets are reduced from 3 - 5 to 2 which he thinks will avoid an indistinctness in the original. He reduces, too, the number of guttae in the regula to six, a mean between the Greek and Roman. Thus, running throughout much of this later work of Benjamin's, patently Greek in its appearance, there is a subtle influence of the earlier Roman training which makes itself felt in proportion rather than in terms of flagrantly perceivable detail, in which case his bias against the Roman school is pronounced. This is particularly true of the Composite order. "I have been induced to examine in the most critical manner all the examples in my possession;" he writes, "and the result has been a determination to try my skill on its reform. How well I have succeeded, it is not my place to

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16 Ibid., p. 38.
Figure 87. Practice of Architecture (1833).
Plate 12. Ionic order.
Figure 88. *Practice of Architecture* (1833). Plate 18. Corinthian order.
decide." Had it been one of the established orders he would have shrunken from the task, "but as this composition is denied the name and rank of an order by many of our most eminent modern architects, it is thought to be a fit subject to work upon." The changes, as one might well expect, have bred a Grecian hybrid. An Attic base is substituted, and "in each face of the upper part of the capital, the stiff awkward form of the Roman Ionic capital has given place to the graceful Grecian." 

It seems but a step from this very frank improvisation upon the Composite and similar improvisations in the Practical House Carpenter to the composition of an original order, and this Benjamin undertakes for the first time in the Practice of Architecture. "I am aware that the publication of anything in the shape of an order," he writes by way of initial apology, "unless it be really one of the Grecian or Roman orders, is, by persons well versed in architecture, thought to be little less than heresy." In theory he does not disagree with them but convinced that more than one half of the columns and entablatures in country and city alike be-

17 Ibid., p. 54.
18 Ibid.
19 Ibid.
20 Ibid., p. 30.
long neither to one system nor the other, he feels he should undertake the design of an order to meet this situation, "constructed on scientific principles, and of a character capable of meeting the views and practice above-mentioned, than to leave it to be composed by unskilful hands." The new order includes an Ionic shaft taken from the interior of the Temple of Apollo at Bassae, ornamented with twenty Doric flutes, but separated by fillets. The base is "somewhat like that given by Vitruvius in his Tuscan order; but the torus is elliptical, and fluted, in imitation of some of the best Grecian examples of the Ionic base." The capital imitates a Doric capital "found on the newly discovered temple at Cadachio, in the island of Corfu," and the entablature is made two diameters high and divided into three parts, "the details of which have been selected with a view to economy and an adaptation to the column and to modern practice." (Fig. 89) The larger and better class of building will always be decorated with some one of the orders, and it is to be expected, he hopes, that his own design would be used only on smaller and cheaper structures "in which case it will seldom be required to make the column larger than the Ionic

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21 Ibid., p. 31.
22 Ibid.
23 Ibid.
24 Ibid.
Figure 89. Practice of Architecture (1833). Plate V. Column and entablature.
proportions, say nine diameters."  

In the design of frontispieces he urges the omission of all "unmeaning cuttings, carvings and twistings of the details, and their frequent breaks over columns, pilasters, tablets, &c. . . ." His doorways reveal the characteristic enlargement of proportions of the times, tending occasionally now in the direction of heaviness, and conceived in terms of simple angular patterns whose mouldings are commonly fluted or of elliptical curve profile (Figs. 90, 91, and 92). The fret design and the diamond or rosette panel are among the common embellishments together with the common Greek mouldings (Fig. 93), and to these Benjamin adds in this work a much more extensive use of the anthemion, as for example in the balustrade in plate 30 (Fig. 91). In at least two plates, 28 and 29 (Fig. 90), Benjamin holds over quite curiously the elliptical fanlight of Early Republican days, filling its spandrels with a honeysuckle motif. In plate 29 this honeysuckle motif in both its regular and inverted position blossoms out also in the pilasters, forming a typical decoration which was widely popular during the period (see chapter IX).

In his remarks on the construction of churches Benjamin reiterates the observations made in his last work and includes

25 Ibid., p. 32.  
26 Ibid., p. 60.
Figure 90. Practice of Architecture (1833). Plate 29. Frontispiece.
Figure 91. Practice of Architecture (1833).
Plate 30. Frontispiece.
Figure 92. Practice of Architecture (1833).
Plate 39. Doors.
Figure 93. Practice of Architecture (1833). Plate 46. Ornamental mouldings.
a plan, elevation, and pulpit for a church (Figs. 94 and 95). Let your elegance be simple and grave, he pleads, "and not of the gaudy kind." Light, gay colors and all symbols of "heathen" (!) worship should be avoided. He mentions again his preference for single tier windows in the body of the church, but includes double tiers of windows in his own design, observing in the text once more that where single large windows cross the galleries "they present a very awkward appearance." The elevation of this church as shown in plate 53 reveals a type which differs in general proportion and detail from the characteristic Early Republican structure. The height is decreased, giving to the body of the structure a seemingly greater width, and in place of the Roman orders the decorative vocabulary is now of Grecian forms. The cupola rises directly from the body of the church with little or no tower base and like other portions of the building is ornamented with anthemion and honeysuckle designs. The inspiration for this new Greek Revival church form appears to come from English sources. Later editions of both Nicholson and Soane29 show designs for churches of this variety, and in Nicholson's New and Improved Practical Builder (London, 1823)

27 Ibid., p. 84.
28 Ibid.
Figure 94. Practice of Architecture (1833).
Plate 53. Church.
Figure 95. Practice of Architecture (1833). Plate 54. Church (elevation).
in plate 50 can be found an exact prototype for Benjamin's design. The fact that the ornamental mouldings in plate 46 of the *Practice of Architecture* (Fig. 93) were also derived from this same Nicholson work (plates 26-7) lends conviction to the conclusion that the Nicholson church served as primary inspiration for the plate which Benjamin designed.

Benjamin's general remarks on carpentry show a continuation in the direction of increased emphasis on technical problems. One of the most interesting of these, and one which Benjamin mentions first, is directly related to the developing concept of economy in building materials. The traditional framing techniques, inherited from late medieval European practice, and based primarily upon a theory of size well in excess of weight to be sustained, underwent their first serious metamorphosis in the early nineteenth century. New scientific inquiry into the nature of materials and a knowledge of stresses and strains produced a growing body of information on the subject which led directly to a lessening of the size of supporting units in the nineteenth century frame and ultimately made possible the development in the mid-nineteenth century of the balloon frame. Carpenters who do not possess a thorough theoretical knowledge, writes Benjamin, "are apt either to load their work with timbers unnecessarily large and expensive, or on the other hand to provide timber too small and weak to resist, for a suffi-
cient length of time, the strains imposed upon them." Benjamin discusses the nature of the various timber materials and ways of computing the stresses and strains to which they are subject, with the material, as before, taken from Tredgold's *Elementary Principles of Carpentry*. The author includes both an expanded description of various experiments conducted by European theorists and a series of tables showing, for example, the cohesive strength of certain timbers, or providing a means of computing cross strains. He cautions only in conclusion that as these "scientific gentlemen of Europe" have made their experiments on European timber we must therefore make proper allowances for the differences in native stock.

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31 A similar table for the estimation of iron work is interpolated at the beginning of the work with the simple explanation: "In my own practice, I have often felt the want of something of this kind." (Benjamin, Asher. *The Practice of Architecture* (Boston, 1833), p. viii.)

32 *The Practice of Architecture* went through seven editions. A new plate showing "Four additional designs for base mouldings" was interpolated in the third edition, published in Boston and Philadelphia in 1836.
Chapter VII
"For the use of builders"

In 1839 Benjamin published his sixth and last major work, *The Builder's Guide*, illustrated by sixty-six engravings, which exhibit the orders of architecture and other elements of the art. Designed for the use of Builders, particularly of carpenters and joiners. The preface is brief and reiterates the primary purpose of these later works as source books "for the use of those builders who reside at a distance from cities, where they cannot have the assistance of a regular architect."¹ As before, Benjamin acknowledges "copious selections from many valuable works," and proclaims that he has "freely followed his own judgment and experience, in suggesting such alterations and ideas as appeared to him useful."²

By this date Benjamin's books no longer enjoyed a monopoly among American builders. Other American builders' guides had appeared as early as 1805 with the publication in Philadelphia of Owen Biddle's *Young Carpenter's Assistant*, followed in 1818-21 by another Philadelphia publication, *The Builder's Assistant* by John Haviland and Hugh Bridport. But

² Ibid.
the most formidable rivals were Edward Shaw (1784–ca. 1847) and Minard Lafever (1797–1854). Shaw was a Boston architect whose practice in the early nineteenth century was widespread and whose popular influence through his publications can be traced clearly in many parts of rural New England. His Civil Architecture, first published in 1831, had reached its fourth edition by 1835 and was re-published in an eleventh edition as late as 1876. The work has been characterized as "more of a complete builder's and architect's handbook" than Benjamin's items with fewer designs and details, though more material on geometry, mensuration, and construction. His plates, like Benjamin's, are thoroughly in the Boston tradition, and like Benjamin again he makes large use of the meander in his Greek Revival design.

Minard Lafever, whose works may be considered second only if not equal to Benjamin's in terms of popularity and influence, was also self-taught architecturally. The buildings which he designed in New York and Brooklyn, where most of his practice was centered, gave him within his own lifetime a wide reputation as a skilled architect. His builders' guides always preserved, as did Benjamin's, something of the common sense practicality of his early training. Lafever's

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three most important works, *The Young Builder's General Instructor* (Newark, 1829), *The Modern Builder's Guide* (New York, 1833), and *The Beauties of Modern Architecture* (New York, 1835), show a surprisingly rapid artistic progress from the relative crudity of the first to the polished control of the last. They are simple and unassuming and bear witness to their author's carpenter training and his eagerness to help those who like himself entered architecture through the building trades. All his books, writes Talbot Hamlin, show "a driving, imaginative, creative force that expressed itself with clear and lovely restraint. The second and third contain probably the most exquisite and the least archaeological of all American Greek Revival detail - personal, inventive, restrained."

Interestingly enough, despite the growing popularity of these rival works, Benjamin makes little or no formal concession in his own writing to the competition. The *Builder's Guide* is similar in form and content to both his preceding works. It does include some additional designs whose detail becomes increasingly complex and occasionally ornate. In plates 2 and 3, for example, he includes a series of compounded mouldings "selected with great care, from the best Grecian examples... many of them... in their form of

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4 Ibid., pp. 146-7.
outline and their particular combinations, entirely new; and have not before, to my knowledge, appeared before the public in the form which they now assume." In none of these, however, does he yield in style or form to the newly published designs of his contemporaries, remaining steadfastly anchored to the European sources of influence which had primed his works from the very beginning.

The trend towards increasing verbalization and relaxation of the hard and fast rule are advanced enough by now to become major distinguishing characteristics of the work. In the orders, for instance, there are a larger number of examples from which the builder may select his own proportions together with a list of the "extremes of the practice of the Grecian and Roman architects," and in the case of the Tuscan the standard proportions of the Renaissance architects, Pal-


6 There is continuing influence, for example, from the works of Peter Nicholson; in both this and earlier works in which Greek Revival detail appears there is abundant evidence of material drawn from Nicholson's *Principles of Architecture*. Greek mouldings, elements of Greek foliate design, remarks on shadows, details of orders, and descriptive remarks on actual temples found in Benjamin can all be matched with strikingly similar material in Nicholson. Plates 65, 67, and 69, for example, have clearly furnished Benjamin with the moulding profiles appearing in plate 2 of the *Practical House Carpenter*, plate 3 of the *Practice of Architecture*, and plate 1 of the *Builder's Guide*.

ladio, Scamozzi, Serlio, Vignola, and later, Chambers. Benjamin admits tacitly that he has made "no attempt to assign a determinate height to the [Doric] column ... as it will be necessary to adapt its height to the situation in which it shall be placed." 8

The fundamental cause underlying this relaxation of rules may be explained as a recognition at last of the flexibility and formal independence of the Greek Revival. The Greeks themselves practiced such latitudes in their own work, says Benjamin. It appears, he writes, that they first determined the dimensions of the front of their temples and made the diameter of the column a certain portion of that. In this way the American author avoids the problem of absolute height and directs his attention instead to a new and more flexible unit of proportion. He gives suggestions for the determination of the proper diameter and intercolumniation and includes a Doric portico in plate 21 for graphic illustration. By this process, he adds, it is not to be supposed that the Doric will require a height of less than six nor more than seven diameters. 9 Compared with the Practice of Architecture where a Roman proportion of eight diameters is still urged, this statement points clearly to an ever

8 Ibid., p. 13.

9 Similarly he reduces the Ionic from nine to eight (though
sharpening focus upon Grecian form and proportion.

The orders are drawn (as before) directly from antiquity or "composed" by Benjamin from various classic examples. The Ionic, for instance, is not in exact imitation of any one of the Grecian Ionics, he writes, "but is in all respects purely Grecian."\(^{10}\) In selecting its various members from ancient examples his aim was "to adapt it to the wants and practice of the present day."\(^{11}\) A second and more ornate example of the Ionic (Fig. 96) includes necking ornaments from the Erechtheum and bolster leaves from a capital discovered near the wall of the Acropolis. In the second and third Corinthian examples (Fig. 97) Benjamin falls back entirely upon antique models taken from the Choragic Monument of Lysicrates and the Temple of Apollo at Branchidae, examples which he could have found in the Society of Dilettanti's publications on Attica and Ionia and in Stuart and Revett. He credits several of his designs to these archeologists, such as plate 20 where the wreath decorating the frieze is acknowledged to be taken from an example in "Stu-

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\(^{11}\) *Ibid.*
Figure 96. Builder's Guide (1839). Plate 11. Ionic capital.
Figure 97. Builder's Guide (1839). Plate 15. Corinthian order.
art's Antiquities of Athens." The Composite order is omitted for the first time although Benjamin includes as in the Practice of Architecture a column and entablature of his own compiling which would be useful when the Tuscan was thought too plain and the Doric too expensive.

With the Greek Revival now at its height it is not surprising to find the Builder's Guide devoted almost exclusively to Grecian forms and proportions, including certain new forms unmentioned by Benjamin before this time. There are, for example, several designs of antae capitals for the different orders though they may be used with success, he adds, wherever their peculiar form and character harmonize with other parts of the composition (Fig. 99). They stem from well-known Grecian examples commonly reproduced in many of the standard books of the period, such as for example the antae and entablature in plate 18 (Fig. 100) copied with slight deviation from the Choragic Monument of Thrasyllus at Athens, reproduced in Volume I, Chapter IV, plate 4 of Stuart and Revett.

Aside from the occasional intrusion of such new material the content of the Builder's Guide remains strongly comparable to the Practice of Architecture, sometimes to the

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12 Ibid., p. 23. In plate 7 (Fig. 98) details of the Doric planter are taken from the same work, as is also the Choragic Monument found in Vol. I, Chap. IV, plate 6.
Figure 98. Builder's Guide (1839). Plate 7. Details of Doric order.
Figure 100. Builder’s Guide (1839). Plate 18. Anta and entablature.
Figure 101. Builder's Guide (1839). Plate 25. Frontispiece.
Figure 103. *Builder's Guide* (1839). Plate 45. Consoles.
Figure 104. Builder's Guide (1839). Plate 33. Rising doors.
shown for a "suit of doors extending across the room . . . designed to slide up into the room above them until entirely concealed by the entablature. . . ."\textsuperscript{15} Such a construction, he notes, is particularly convenient for hotels, and can be recognized today as characteristic of the rapidly developing mechanical factor in construction and design in early nineteenth century architecture. By this date Benjamin would have had every opportunity to become familiar with the progressive work of the Boston architect, Isaiah Rogers, whose Tremont House was perhaps the first hotel in America to realize something of the modern ideal. In this building, writes Talbot Hamlin, "for the first time in America if not indeed in the world, mechanical equipment became an important element in architectural design.\textsuperscript{16}

In one instance Benjamin takes over literally two plates from the \textit{Practice of Architecture} together with much of their text (numbers 49 and 50 on stairway construction). In his discussion of fireplaces, on the other hand, the material is largely new and concerned with the scientific principles governing fireplace construction. Here as in the section devoted to carpentry the expanding influence of nineteenth century technology is stressed. Fireplace sizes vary, he notes, ac-

\textsuperscript{15} \textit{Ibid.}, p. 31.

\textsuperscript{16} Hamlin, Talbot. \textit{Greek Revival Architecture in America} (New York, 1944), p. 112.
cording to whether wood, bituminous, or anthracite coal is to be used. If anthracite is intended the height can be increased for greater warmth insofar as there is less smoke to escape into the room. The finish should be adapted to use and convenience and harmonize with the architectural finish of the room. He discourages the use of columns on either side of the fireplace and cautions against allowing the pilasters to stand out too much lest they obstruct the hot air passage. "They are also objectionable on other accounts," he adds parenthetically, which if aesthetic are certainly of less importance seemingly than the practical. He does include, though, an appeal to the "taste" of the architect. The builder and owner both are warned against too decorative a chimney piece with a "profusion of unmeaning mouldings..." If marble is used it should be of good proportion and as it is beautiful in itself "should be decorated with a sparing hand. What is called decoration, ceases to be such when misplaced. Decoration is subordinate in the composition, and should be made for the place which it is to occupy, and not the place for the decoration." If marble is not available, the use of wood is suggested, varnished black and "properly rubbed.

18 Ibid., p. 46.
19 Ibid.
down and nicely varnished, and a good imitation will be pro-
duced."\textsuperscript{20}

Of particular interest are several plates and accompanying text devoted to cast iron (Figs. 105, 106, and 107). The rapidly growing popularity of this medium has been noticed, and Benjamin includes this subject under a heading of its own now for the first time. "A few Plates may be use-
fully employed, we presume, upon this subject," he writes. "The fact, that cast iron is produced in most parts of this country, and at a cost so low as to place it within the reach of all, the great amount of its yearly consumption, and the facility with which it may be wrought into the most beautiful shapes, render it an object worthy of attention here."\textsuperscript{21} The "beautiful shapes" are mostly Grecian floral motifs applied to balconies, railings, window guards, stair railings, lamps, lamp stands, gates, verandas, "and many other examples. . . ."\textsuperscript{22} These plates mark a high point of ornate abandon in decorative design rivalled only by the architect's actual work in Windsor, Vermont, in his Pain-Adam period.

\textsuperscript{20} Ibid.

\textsuperscript{21} Ibid., p. 47.

\textsuperscript{22} Ibid.
Figure 105. Builder's Guide (1839). Plate 33. Balcony railings and window guards.
Figure 106. Builder's Guide (1839). Plate 55. Lamps and lampstands.
Designs for two types of building are included in this work, the first a plate with two designs for shop fronts in the Grecian manner (Fig. 108), and the second, plate 59 (Fig. 109), showing the front and side elevation for a church. The design is somewhat simpler than his church in the Practice of Architecture and includes instead of a portico two Ionic columns in antis. The most interesting feature of this work is in the flank. Benjamin had declared himself in favor of single tier windows more than once yet worried through both the Practical House Carpenter and the Practice of Architecture about the awkwardness created where the gallery crosses such windows. He now solves this problem by using a single tier of windows into which has been inset at the mid point a small panel embellished with a honeysuckle motif, providing an effective screen to hide the gallery behind (Fig. 109).

The work concludes with another lengthy treatise on carpentry, large portions of which are taken directly from the Practice of Architecture. Some new and more highly detailed illustrative material is added (see for example Fig. 110), but the tenor of the observations remains relatively the same. The builder as before is constantly reminded by rule and example that the size of the beam may be somewhat reduced if the weight, wind velocity, and stresses, etc. are properly computed, and is further instructed in this matter by a number of tables. One of these, furnishing the various forms
and sizes of cast iron joists and the manner of turning brick arches between them "so as to make the floor fireproof," is taken as the author acknowledges from Thomas Tredgold's *Practical Essay on the Strength of Cast Iron and other metals* . . . (London, 1822). Another on the force of winds "from the tables of Mr. Rouse and Dr. Lind, and Compared with the Observations of Col. Beaufoy," and one of data "useful in various calculations," devoted to specific gravity of metals, cohesive strength of various materials, etc., are also taken from Tredgold's *Essay*, and the whole work is concluded with a dictionary of technical terms.

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23 Ibid., p. 64.
24 Ibid., p. 68.
25 Ibid.
26 No significant alteration or enlargement of this work was undertaken in subsequent editions beyond a slight change in title to *The Builder's Guide; or Complete system of architecture* . . . in the 1843 edition and to *The Architect; or, Complete Builder's Guide* . . . in 1845. All subsequent reissues carry the 1843 title.
Chapter VIII

"The theory and practice of carpentry"

Benjamin was seventy when he wrote his seventh and last work, published in Boston in 1843. The work is in all respects a culmination of the conspicuous trends in his later writings and to a degree which makes it as different from his earlier works as it was lacking in popular appeal. The full title, Elements of Architecture, Containing the Tuscan, Doric, Ionic, and Corinthian orders with all their details and embellishments, also the theory and practice of Carpentry, exhibiting thirty-six experiments made on various kinds of American Timber; experiments made in various ways on European timber by European artists; and on the strength of iron, steel, copper, brass, tin, lead, stone, brick, cement, &c., &c., reveals immediately a new emphasis on matters of construction which before had been treated almost incidentally at the close of each work. Graphic illustration is reduced to twenty-eight plates which include details of the orders but which are devoted mainly to the theory of architecture.

Benjamin calls the work a treatise on architecture. He has, he writes, "kept steadily in view his favorite object of producing a book upon that subject which all may read and understand without the aid of an instructor." 1 All the de-

1 Benjamin, Asher. The Elements of Architecture (Boston, 1843), p. iii.
tails are explained precisely as he would have explained them "if instructing a student in these rules in his office. . . ."\textsuperscript{2}

Few carpenters, he admits, have acquired a knowledge of figures beyond the common rules of arithmetic, and so he means to keep his calculations confined to problems that can be solved by those rules. "The simple rules laid down in this work will enable the student to reach like results, with less calculation and less risk of error. . . ."\textsuperscript{3} In all of this we may gauge the extent of his shift in interest. These remarks eclipse the usual prefatorial preoccupation with matters primarily aesthetic. It is not until the final paragraphs of the preface, after having placed principal emphasis on the theory of practice, that he speaks of the problems of architectural form. No building, he asserts, can be erected without attention to an overall plan at the start which the student must have in graphic form. "By this means, the architect is enabled to explain all parts of the building to the proprietors, as clearly and fully upon the drawings, as if the building were completed; and an opportunity is thus given to make alterations, in season to save expense and preserve the symmetry of the building. . . ."\textsuperscript{4}

\begin{flushleft}
\textsuperscript{2} Ibid.
\textsuperscript{3} Ibid., pp. iii-iv.
\textsuperscript{4} Ibid., p. v.
\end{flushleft}
Together with the greatly expanded material on engineering and carpentry are the usual historical-descriptive comments on the orders which now have an independent importance of their own, edging out any interest in their practical application. The work is patently a treatise, and is directed clearly as was the *Rudiments of Architecture* toward the student of architecture. "We have...endeavored to adapt this treatise to the use of schools;" he writes, "and for that purpose, have added a cursory view of the ancient architecture of Egypt, Greece and Rome...and also the principles on which architecture is founded...."5 These principles are gleaned from the Reverend Archibald Alison's *Essays on the Nature and Principles of Taste* (Edinburgh, 1790), the only work, as Benjamin feels, from which "a satisfactory knowledge of the principles of Architecture is to be obtained."6 The keynote of "beauty and sublimity" which is sounded in the first sentence of Benjamin's quoted remarks established the tone of the work and served to tie it to the writings and building of the next few decades. Benjamin restricted himself first to Roman and then to Grecian architectural forms during his professional life. Never once in either his writings or his own work did he yield to the growing influence of the Medieval forms which under the championship of

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5 Ibid.

6 Ibid., p. 187.
the English Romanticists had made inroads upon American public taste in the 1820's and 1830's. Here the mathematical proportions of the Classic temple give way to an increased flexibility in planning and new concepts of architectural form decorated with Gothic detail. In the builders' guides published by A. J. Downing this decorative vocabulary is characteristically based upon naturalistic forms less stylized than Grecian floral detail. The Gothic becomes no longer a barbarian perversion of the classic but a form to be emulated, the reflection of a picturesque order. With this shift in emphasis the rational order of man in architecture yields to the accidental or natural - in theory at least, and later in the nineteenth century in practice as well. One is reminded of the statement some few years later in 1856 by Nathan B. Kelley, architect of the Ohio capitol: "A wreath of little roadside flowers would be to me an object of far more surpassing beauty than all the masks and skulls and centaurs that the ancients ever carved." 7 Not until his final work, however, is there any recognition of this force in the life of Benjamin and it appears only in the guise of these passages from Alison, dealing as they do with "natural beauty," and "natural sublimity."

In terms of deeper significance these paragraphs in Ben-

7 "Annual Report of the State House Commissioners. ..." Ohio Executive Documents for the year 1856 (Columbus, 1857), p. 239.
jamin's later works, and particularly in the *Elements of Architecture*, cover a growing dichotomy in the architectural thinking of the period. The forward-looking architect, obsessed with problems of technology, highly magnified as the emphasis in the *Elements* suggests, allows the problem of architectural form to slip. The problems of structure, of material, and engineering become the all-absorbing factors. Through dehumanization and a failure of interest in its function, Design becomes an academic study which clothes its architecture in forms familiarly derived and aesthetically proven while Function itself becomes a matter of ceremony. Design is no longer creative in the strongest sense of the word but academic, selecting those forms best suited to impress the beholder, to complement the mood of the client, or recall past associations, and the character of this discriminatory function is defined as "Taste." The eclectic styles which multiply in the mid-nineteenth century period bear strong witness to the broad exercise of this function, yet in the architectural thinking itself, the question of "taste" continues to be divorced from engineering theory. The increasing preoccupation with these theoretical and mechanical problems in Benjamin's successive works is a strong indictment of the trend. Having commenced his work in the field of builders' guides with a small edition devoted almost entirely to practical matters with an absolute minimum of text and no theory at all Benjamin now concludes nearly a half
century later with a work whose entire content, almost without exception is devoted to theory, and in which, unwittingly, it would seem, he aligns himself passively with the eclectic spirit of the later nineteenth century.

With only a summary glance at the orders, proportionately reduced in relation to his previous works, Benjamin jumps directly into the Theory and Practice of Carpentry. The theory of carpentry," he writes, "teaches the numerous forms and positions which timbers, iron, and other materials, are made to take, when employed in roofs and other framings, the laws by which their numerous strains and thrusts are regulated in accordance with their various positions, and the manner in which all their strains can be accurately determined and measured." In the pages which follow, devoted to these prob-

8 The analysis of the orders, though brief, is highly detailed. The author defines and describes each minute element in particular, accompanying his remarks with full length examples of the orders, among the very few such examples of full length orders which he includes in any of his works (Fig. 111). The student has explained for him the whole nature of proportioning the orders in terms of moduli and minutes, after which Benjamin takes up each of the orders in turn with historical descriptive remarks. These parallel in many instances the Practice of Architecture and the Builder's Guide and acknowledge as before a debt to Stuart and Revett. The author repeats, for example, the table shown also in the Builder's Guide of comparative proportions of the Tuscan order as used by Palladio, Scamozzi, Serlio, Vignola, and Chambers, and also the table of Doric column heights. The proportions of the orders remain as assigned before.

Figure 111. Elements of Architecture (1843).
Plate 4. Ionic and Corinthian orders.
Figure 112. *Elements of Architecture* (1843).
Plate 22. Carpentry.
Figure 113. Elements of Architecture (1845). Plate 25. Carpentry.
Figure 114. Elements of Architecture (1843). Plate 24. Carpentry.
timbers have had their strength tested in Europe..."13 The want of any such knowledge has been severely felt by American builders, and "having recently, in a conversation with my friend, Samuel Shepard, Esq.," as he writes, "expressed my views on the great want of some well-conducted experiments on the cross-strain, at least of American timber, he, after some consideration of the subject, generously offered to furnish the necessary apparatus, and produce a suitable number of specimens..."14 His practical knowledge of timber and of the science "and his accuracy and punctuality in every thing,"15 continues Benjamin, eminently qualified him for the undertaking, and when everything was in readiness "the breaking of various specimens of American timber was witnessed by me with intense interest, and with a perfect conviction of the correctness of the results."16 Benjamin's tables, in which are compiled the results of these experiments, may very justly claim the unique honor of pioneer endeavor in the American field.

Benjamin parallels his remarks on American timber with a series of tables from Tredgold's Carpenter and observations

13 Ibid., p. 91.
14 Ibid., p. 92.
15 Ibid.
16 Ibid., pp. 92-93.
from other European theorists upon experiments in the field of stress and strain and strength of materials in general.\footnote{Benjamin shows numerous tables in this work in contrast to the moderate number which appeared in his earlier publications, and some of these were apparently of his own compiling, for example the table on page 89 exhibiting the breadth and depth of joists, used in dwelling houses, from five to twenty-four feet bearing.} Strength of hollow cylinders, strength of timber after boiling and steaming, and of nails and screws, for example, are all treated, together with the more common problems of metal and timber resistance. Experiments dealing with the strength of nails and screws are ascribed to a Mr. Bevan who seems to have conducted these experiments for or with Benjamin.\footnote{Benjamin draws particularly upon Barlow and upon Tredgold for tables and information concerning various metals such as malleable and cast iron and their strength and resistance to strain, again referring to numerous experiments of European theorists which he found in their texts. The tables of experiments performed by Rennie on the resistance of cast iron to a crushing force (p. 128), for example, and to a cross-strain (p. 129) and for computing the strength of cast-iron columns (p. 137) are taken from Tredgold's Essay on Cast-Iron. The tables of experiments of the resistance to crushing force of other metals (p. 128) and of stone and brick (p. 139) are taken from Barlow's Treatise, from which source comes also, and quite substantially, Benjamin's remarks on the strength of cement, and tables on p. 144 and 145 exhibiting the specific gravity of various building materials. From John Smeaton's Experimental Inquiry concerning the natural powers of wind and water . . . (London, 1794) comes the table on p. 149 of the velocity and force of wind.}

Having devoted the major portion of the text to the theory and practice of carpentry, Benjamin turns his atten-
tion to a "concise view of the several styles and modes,"

of antiquity which were to furnish the architect with an increasing vocabulary of "tasteful" forms. The remarks are general in scope, in large part a description of the more well-known buildings of Egypt, Greece, and Rome including Roman classic, Gothic, and Renaissance forms. For the casual browser there is a chronological table commencing with the Tower of Babel "built by Noah's posterity, in the plain of Shinah," ascribed confidently to 2247 B.C., and concluding in 1768 with the establishment of the Royal Academy in London. Benjamin could have found this material in any one of a number of works published in both Europe and America whose scope had broadened during the first few decades of the nineteenth century to include a discussion of many styles and periods. Thomas Hope, Sir James Elmes, and a little later the American, Mrs. Caroline Tuthill, writing in 1848, include expansive historical commentaries upon the major historical styles. In this instance the greater part of his remarks on Grecian architecture are taken almost verbatim from Telford's article on Civil Architecture in the Edinburgh Encyclopedia. The significance of this material of a frankly historical character lies again in its reflection of the growing schism between the academic and the mechanical. It is interesting,

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19 Benjamin, Asher. The Elements of Architecture (Boston, 1843), p. 147.

20 Ibid., p. 183.
too, as an example of art history largely for its own sake and unrelated to the material which he discusses in a mechanical context. Both the photograph and cheap lithographic illustration brought vividly before the American public the many treasures of foreign art. The interest stimulated in this way cannot be overlooked as furnishing Benjamin with a strong incentive to include such material in his own work.

The **Elements of Architecture** was the least popular of Benjamin's works, owing perhaps to a reduction of graphic illustration, the absence of any of the more common details of finish, and an increase of material which was of more vital concern now to the architect than to the carpenter. But the tests made on American timber could not have failed to interest all practical builders and those primarily concerned with the science of architecture. While the content of his work may have changed significantly in this latest book, written in his seventieth year, we still find that same keen perception of peculiar American problems with an American builder's solution which characterizes his earliest pioneer efforts in the field of the American builders' guide.
Chapter IX
"Epilogue"

It would be hard to take the precise measure of Benjamin's influence upon nineteenth century architecture in the United States. In a period when the diffusion of architectural knowledge and style was performed largely by the builders' guide the impress of his designs, especially in the rural areas of New England and the Northwest, was almost immeasurable. Following his death in 1845 were published posthumous editions of the Practical House Carpenter, the Practice of Architecture, the Builder's Guide, and the Elements of Architecture, bringing the known total of the editions of his work to forty-four in all. We have no exact figure of the total volume which these forty-four works represent, but Benjamin writes in the preface of the fourth edition of the Practical House Carpenter that "three editions of this work, each containing one thousand copies"1 having been sold, the author is encouraged to publish a fourth. Taking this figure as an average - perhaps too large for the earlier works - we can estimate in round numbers that some thirty to forty thousand copies of Benjamin's works had been in circulation by 1862 when the last edition of any of his works was published (the Builder's Guide).

1 Benjamin, Asher. The Practical House Carpenter (Boston, 1835), p. vi.
The popularity of his work seems to have been strongest along the Eastern seaboard and in the Northwest, with lesser influence in the South. In the earlier years of the Republic particularly the spheres of European influence were more sharply demarcated, and it is only natural that Benjamin's work, reflecting in large measure the current English style and practice, should have made its strongest appeal in the north - and pro-Anglican New England especially - while the French influence was stronger in the South. Indeed, one might conclude that the influence of Benjamin's early publication was confined entirely to New England insomuch as Owen Biddle, writing in Philadelphia in 1805, some eight years after the publication of the *Country Builder's Assistant*, remarks in his Preface that "Nothing in Architecture has hertofore appeared in this Country. . . ."2 This strong Benjamin influence in the North would naturally continue among those earlier settlers of the Northwest from New England, but by the time of greater western expansion the Greek Revival had gone far to establish a standardization of style throughout the country which tended to break down barriers of regionalism and render the works of both Benjamin and his contemporaries more widely acceptable. His profiles were followed by numberless carpenters; his designs freely and

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imaginatively translated by a host of craftsmen and builder architects alike. In the work of Samuel McIntire, for example, architect and carver of Salem, Massachusetts, there is in his later work, as Fiske Kimball has demonstrated, the unmistakable influence of Benjamin's *American Builder's Companion*. "It is only in this latest period of McIntire's work," writes Kimball, "that we find small coupled columns - as in a plate of the *American Builder's Companion* - in place of the pilasters at either side of the fireplace. . . . Another device in McIntire's later houses, new to his work and found in Benjamin's books, is the plain flat sinkage, usually of lozenge or oval form, used to decorate a flat band. . . ."\(^3\) The composition of one mantel on the second floor of the Clifford Crowninshield house, 74 Washington Square, 1804-6, "is identical with that of one in . . . Benjamin's *Country Builder's Assistant*. . . . It is the first example of extensive borrowing from Benjamin on the part of McIntire."\(^4\)

Similarly, the influence of Benjamin was widely felt in Rhode Island where it played an important part in the formation of the domestic style of John Holden Greene, a young Providence architect. "Many Bristol, Warren, and Providence examples," writes Antoinette Downing, "resemble the designs

\(^{3}\) Kimball, Fiske. *Mr. Samuel McIntire, Carver, the Architect of Salem* (Portland, Me., 1940), pp. 36-7.

published from 1797. . . ."5 Greene's later work, too, suggests the Benjamin influence, she continues. "The door and window enframements with carved squares inserted at the corners in place of mitring were illustrated in Benjamin's books. Greene made early and varied use of this detail. . . ."6 (Fig. 142).

But it was in the young Northwest that one finds the most striking Benjamin influence in increasing profusion throughout western New York and into Ohio and Michigan. By the 1820's and 1830's the frontier stretched towards the Mississippi River and the hardships of settlement in many instances were past. The people of the Northwest turned to building more substantial houses, and it is natural that their houses, having nothing nearer to imitate and constructed often without the benefit of an architect, should reflect the pattern books which were the one most important link with stylistic trends in the East. These handbooks were used by the architect himself when he appears. Matthias Shryock, for example, "a prosperous builder-architect who had come to Lexington, (Kenneb.) from Maryland . . . is known to have made extensive use of the Benjamin and La Fuer handbooks. . . ."7

6 Ibid., p. 425.
7 Hamlin, Talbot. Greek Revival Architecture in America (New York, 1944), p. 244.
while a copy of the Practical House Carpenter was found in the house which an early Ohio master-builder, Burritt Blake-slee, built for himself near Medina. Another interesting record of his influence in the Northwest occurs in 1842 when the First Church Society in Oberlin, Ohio, discussing the completion of their newly erected meeting house, "Voted that the tower be of the plan drawn in Benjamin's architect. . . ."\(^8\)

Turning to the designs themselves our interest centers upon those examples clearly derived from Benjamin's plates. Confusing similarity between first the English and later American publications in much of Benjamin's work makes it difficult to ascribe to him in all certainty designs which might just as easily have come from Pain or Nicholson or Lafever. In the Country Builder's Assistant, for example, a specific instance of this problem can be found in the frontispieces shown in plates 10 and 11 (Fig. 115). The type becomes popular at the time this work was published, and although in certain examples such as the doorway of Number 13 Benevolent Street, Providence, Rhode Island, one may see a connection with the Corinthian model in plate 11 (Fig. 116), Benjamin's doors belong so much to the common pattern that it is often difficult to link any given example with these plates. The same might be said of the house designs in plates 25 and 26.

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\(^8\) Minutes - First Church Society, Oberlin, Ohio (ms.), p. 48. The plan, however, was never carried out.
Figure 115. Country Builder's Assistant (1797)
Plate 11. Frontispieces.
Figure 116. Number 13 Benevolent Street, Providence, Rhode Island.
(Photo: I. T. Frary)
(Figs. 17 and 18) whose character is general enough to prevent any precise differentiation from current practice as defined by other English publications or traditional style. The doorway of the house in plate 25, however, is exceptional, and its appearance in the houses of the period would indicate Benjamin's distinctive treatment. The doorway of the Governor David Robinson House in Old Bennington, Vermont, for example, is inspired by this plate as the unusual fanlight design alone would indicate (Fig. 117). In the case of plate 26, too, of which quite literal prototypes can be found in the English publication (see p. 27), one can see a possible influence in the William Ellery House in Newport, Rhode Island (now destroyed) (Fig. 118). The chimneys have been ranged along the main axis of the house, making a central hall impossible; otherwise there is no significant difference between this structure and the Benjamin plate.

The most conspicuous design in this work, and by far the most widely reproduced of all Benjamin's church designs, is plate 27 of the Country Builder's Assistant (Fig. 23). There can be little question but what Benjamin through the influence of this plate was largely responsible for the dissemination of the church type with projecting porch facade made popular by Bulfinch. Examples range from almost literal copy to imaginative and ingenious adaptations. Perhaps the best known example is the church at Old Bennington, Vermont (Fig. 119). Proposals for framing the structure were solici-
Figure 117. Robinson House. Monument Avenue, Old Bennington, Vermont. (Photo: author)
Figure 118. William Ellery House. Newport, Rhode Island.
(Photo: J. M. Howells. Lost Examples of Colonial Architecture, Pl. 65)
Figure 119. Church. Old Bennington, Vermont. 1805.

(Photo: author)
ted in the Vermont Gazette on February 14, 1804, and on January 1, 1806, a local resident records in his journal that on this day the new meeting house was "solemnly dedicated. . . ." He goes on to mention the builders as "Messrs Abel and Fillmore," now identified as Oliver Abel, a local master-carpenter, and Lavius Fillmore, a builder-architect working first in Connecticut and then in Vermont, who seems to have played the major role in its design. His source of inspiration was unquestionably plate 27 of the Assistant, but he has introduced certain happy modifications of his own. Within the structure itself, for example, he has replaced Benjamin's arrangement of superimposed orders with a single unifying two-story order which helps to support groin vaults at the side over the galleries, and has introduced a cruciform arrangement of flat ceiling and shallow saucer dome over the crossing. The columns are arranged with more sensitive regard for the spacing of the windows, an idea which is not carried out in Benjamin's own design, and the windows of the second story are arched, apparently to follow the curve of the vaulting. The original pulpit, as far as can be determined, followed the Benjamin design in its general disposition while the auditorium was filled with forty-eight box pews instead of the sixty-six slip pews shown by Benjamin.

9 Harwood Diaries, volume for March 22, 1805 to December 20, 1806 (number 2), p. 25.
The facade and spire show little modification of the original design beyond the introduction of a pedimented gable over the Palladian window and main entrance (whose fanlight detail is inspired by plate 25 of the Assistant - Fig. 17), and the introduction of Palladian windows in three faces of the tower. Fillmore has also succeeded in improving the junction of the octagonal colonnade and lantern above by introducing over the belfry an octagonal truncated roof of gentle pitch from which the lantern springs, rather than from the flat platform atop the belfry as suggested in the original design.

Of the many other churches throughout New England which can be traced to this plate, the most literal copies are those at Manchester, Massachusetts, and East Poultney, Vermont. The Manchester church, finished in 1809, as far as the facade is concerned, represents perhaps the most literal of all the known copies of this plate (Fig. 120). The tower is reproduced exactly, even to the finial of the weather-vane. The meeting house in Shirley, Massachusetts, built in 1754, had a spire added in 1804 which is obviously copied from the Benjamin design, and the church in Wayland, Massachusetts, built in 1814, is also quite clearly inspired by this plate. In the design of this church Andrew Palmer of Newburyport, its builder, has used Benjamin's pulpit raised on six columns on the inside, and on the facade has followed the plan in the Country Builder's Assistant in the arrange-
Figure 120. Church. Manchester, Massachusetts. 1809. (Photo: Historic American Buildings Survey)
ment of a central entrance crowned with a horizontal projecting entablature and cornice, flanked by two semi-circular headed side entrances. The Palladian window and spire above are also adapted from Benjamin with the introduction of circular headed windows in the second story, an arcade in the first stage of the belfry, and louvred openings of pointed form in the second stage (Fig. 121). Other buildings conspicuously influenced by this design in the Assistant can be found in the Town Hall in Ashfield, Massachusetts, the tower of the Town Hall in Washington, New Hampshire, the First Parish Church in Ashby, Massachusetts, the old Unitarian Church in Castine, Maine, and churches in Enos, and Northboro, Massachusetts, and Salisbury, Quaker Farms, and North Woodbury, Connecticut. The latter is important insofar as it influenced a young builder named Samuel Porter, a native of Waterbury, a few miles distant, who later emigrated to Ohio and who has obviously followed the model of the North Woodbury church in the church which he constructed in Tallmadge, Ohio. The ultimate inspiration is, of course, the plate in the Country Builder's Assistant, with the pediment of the projecting porch supported now by a freestanding portico of Ionic columns and the Palladian window replaced by a single round-headed window opening (Fig. 122).

No other one of Benjamin's church designs (with the possible exception of the plate in the Builder's Guide) seems to have been as popular as plate 27 of the Country Builder's As-
Figure 121. Church. Wayland, Massachusetts. 1814. (Photo: author)
Figure 122. Church. Tallmadge, Ohio.
(Photo: I. T. Frary)
sistant. The church shown in plate 39 of the American Builder's Companion (Fig. 54), published in 1806, can be found occasionally, the most notable example being that in Bedford, Massachusetts (Fig. 123). This structure, dedicated in July 1817, reproduces in wood the original brick design, introducing only such changes as were made necessary by the change in materials. The blind arcades, sometimes found in wood during this period but more characteristic of brick construction, are omitted, the central entrance enlarged, the coupled pilasters of the tower reduced to single pilasters, the masking parapet and urns omitted, and an entirely different tower substituted. In all major respects, however, the church conforms to the new Bulfinch pattern which Benjamin codifies in his second work. A Methodist-Episcopal church in Waterloo, New York, also made use of this essential plan, and in Kinsman, Ohio, there is a curious adaptation of the design with added Gothic detail (Fig. 124). Here again the blind arcade is eliminated and in its place are substituted engaged columns. The coupled pilasters in the second story remain (though attenuated to accommodate the longer Gothic windows). With the exception of the tower and Gothic windows the porch facade is in all other respects quite literally copied from the Benjamin plate. The reluctance of the builders in all of these examples to use the cupola suggested by Benjamin is unexplainable. The builder of Cutler Hall at Ohio University in Athens, however, has copied this cupola alone as a crowning feature of his
Figure 123. Church. Bedford, Massachusetts. (Photo: Church leaflet)
Figure 124. Church. Kinsman, Ohio.
(Photo: I. T. Frary)
building. The clocks which now cut awkwardly into the entablature of this cupola are not an original part of the design (Fig. 125).

The perennial problem of the rapid disappearance in urban communities of earlier architectural forms makes it almost impossible to gauge the extent of Benjamin's influence in spreading the Bulfinch metropolitan domestic style. At least one example of the essential type shown in plate 34 (Fig. 126) of the Companion has survived at Number 301 St. Asaph Street, Alexandria, Virginia (Fig. 127). The position of the doorway is reversed and the basement story eliminated, but in all other respects the influence of Benjamin's design is unmistakable, including such minor features as the raking brick parapet on each gable of the house. The doorway is copied from plate 30 in this same work (Fig. 128), a doorway which seems to have been among the very popular designs in the book, judging from the number of times one finds it reproduced. Additional examples can be found in the Sawyer House in Tinmouth, Vermont,10 in which case the sidelights duplicate the right-hand example shown by Benjamin, and in the Nichols-Sortwell House in Wiscasset, Maine,11 in which the fanlight has been made elliptical. Another prominent

10 Illustrated on p. 142 of Herbert Wheaton Congdon's Old Vermont Houses (Brattleboro, Vermont, 1940).

Figure 125. Cutler Hall. Ohio University. Athens, Ohio.

(Photo: I. T. Frary)
Figure 127. Number 301 St. Asaph Street, Alexandria, Virginia.

(Photo: I. T. Frary)
Figure 128. Doorway. Number 301 St. Asaph Street, Alexandria, Virginia.

(Photo: I. T. Frary)
and quite literal translation of this same plate can be found in Samuel McIntire's Customs House in Salem, reflecting again the use which that architect made of this book (Fig. 129). Engaged columns are substituted for pilaster strips and the fanlight has been divided into ten segments instead of the eight which Benjamin shows. McIntire reproduces literally in his sidelights, however, the upper left hand motif shown in the Benjamin plate. One further interesting and unusual variation upon details of this composition occurs in the doorway of a house in Lancaster, Ohio, in which the fanlight, according to a somewhat later fashion, has now become rectangular. Both the sidelights and fanlight reproduce the upper right hand motif shown in Benjamin's doorway, and the fanlight is enclosed by a running band of contiguous circles quite clearly inspired by the same detail in the fanlight of the Benjamin plate (Fig. 130). In all of these we find a common practice in which the builders abstract parts from the whole or combine various elements to their own taste. The completely literal copy of any Benjamin detail is rare.

Of the remaining designs in the Companion two stand out as particularly popular among builders of the period. The first of these is the capital shown in figure 5 of plate 23 (Fig. 32) which Benjamin notes is not "fit for every situation," yet we find it widely through both the East, Northwest, and sometimes in the South. The other design, also popular, is the cornice lettered B on plate 12 (Fig. 131),
Figure 129. Customs House, Salem, Massachusetts.

(Photo: I. T. Frary)
Figure 130. House. Lancaster, Ohio.
(Photograph: I. T. Frary)
Figure 131.
American Builder's Companion (1805).
Plate 12.
Coronices.
examples of which can be found in the Cushing House, High Street, in Newburyport, Massachusetts, in the Dingler House in Colchester, Vermont, and in an early bank in Marietta, Ohio (Fig. 132). The stucco center-pieces for ceilings in plate 27 can also be found on occasion, and an almost literal copy of the center-piece illustrated at "d" and "c" occurs in the church which Ithiel Town (who supposedly studied with Benjamin in Boston) built in Killingworth, Connecticut.

By 1830 Benjamin's works had become widely spread and were climax'd in that year by the publication of the Practical House Carpenter, destined to become his most popular book. It is not surprising that this work should include the design which became perhaps the most widely reproduced of any which he published. This was the frontispiece in plate 28 (Fig. 133) whose pilasters were decorated with a simple meander motif. An early hotel in Chagrin Falls, Ohio, now demolished, represents as far as the present writer knows the most literal copy of this plate. Each last detail is reproduced with almost no variation at all beyond a slight reduction in height of the entablature, a slight reduction in the width of the doorway, and the omission of one last twist in the meander applied to the door itself (Fig. 134).

The simplicity of this design is perhaps the major factor in its favor, and while few examples can be found to
Figure 132. Bank. Marietta, Ohio.
(Photo: I. T. Frary)
Figure 133. Practical House Carpenter (1830). Plate 28. Frontispiece.
Figure 134. House. Chagrin Falls, Ohio.
(Photo: I. T. Frary)
match the literal quality of copy found in Chagrin Falls the writer has found this design in greater or lesser degree of literal copy in far more instances than any other single design in any of the Benjamin handbooks. There are examples in Beverly, Reading (three in this town alone), Peabody, Woburn, Wakefield, Bedford, and Lexington, Massachusetts; Aurora, Champion Township, Oberlin, Granville, Wooster, and Yellow Springs, Ohio; Bedford and Danville, Kentucky; and Nashville, Tennessee, to mention but a few. Variations in which the meander has been extended to the entablature as well can be found in the Garfield House in Sheffield, Ohio (Fig. 135), and in a store in Wooster, Ohio, the meander is extended to purely decorative narrow oblong panels in the entablature and to the square columns supporting the porch (Fig. 136). This last variation in which the meander was applied to either pillar or pilaster of the house itself rather than the door, was common and can also be found in the church at Claridon, Ohio (Fig. 137), a house at 131 Pleasant Street in Woburn, Massachusetts, and the Gadd House on Orange Street in Nantucket. In one instance, a house at 68 South Paint Street in Chillicothe, Ohio, the typical meander pilasters which flank the doorway are combined with an Ionic pottico whose order may easily have been inspired by plate 10 of the same Benjamin work (Fig. 138).

It is the individual details of finish, however, which one notices particularly in the Practical House Carpenter in
Figure 135. Garfield House. Sheffield, Ohio.
(Photo: I. T. Frary)
Figure 136. Store. Wooster, Ohio.

(Photo: I. T. Frary)
Figure 137. Church. Claridon, Ohio.

(Photo: I. T. Frary)
Figure 138. Number 68 South Paint Street, Chillicothe, Ohio.

(Photo: I. T. Frary)
terms of over-all popularity. Another variety of the meander which Benjamin loved so well is applied to the window shown in plate 31, examples of which can be found reproduced in more than one of the houses on upper Mt. Vernon Street in Boston and in a house at number 44 Beacon Street. The eaves cornice on plate 35 (Fig. 139) was also among those widely reproduced, confined to eave cornices as originally intended and as can be seen in the Old Tavern in Sunbury, Ohio (Fig. 140), or utilized in entirely different ways as for example along the cornice of the pulpit of the Mormon Temple in Kirtland, Ohio (Fig. 141). Another detail, characteristic of the new Grecian mode as popularized by Benjamin and his contemporaries was the square block introduced into the corner of architraves for doorways and windows instead of mitring. The enlarged detail of the diamond shaped block in plate 48 is characteristic (Fig. 142) and can be widely found as for example in the doorway in the parlor of the H. A. Smith House in Adams Mills, Ohio (Fig. 143) with the architrave itself taken from example F in the same plate.

In the next of Benjamin's works, the Practice of Architecture, there is another group of frontispieces simple enough to be widely popular. The frontispiece in plate 25 (Fig. 144) is found occasionally, usually with the diamond panel in the entablature. In the house in figure 145 just west of Ashtabula, Ohio, the builder has followed all details of the composition literally, selecting the moulding at "e" for the archi-
Figure 139. *Practical House Carpenter* (1830).
Plate 35. Eaves cornices.
Figure 140. Tavern, Sunbury, Ohio.
(Photograph: I. T. Frary)
Figure 141. Mormon Temple. Kirtland, Ohio.
(Photo: I. T. Frary)
Figure 142. Practical House Carpenter (1830).
Plate 48. Detail of architrave.
Figure 143. H. A. Smith House. Adams Mills, Ohio.

(Photo: I. T. Frary)
Figure 144. Practice of Architecture (1833).
Plate 25. Frontispiece.
Figure 145. House. Ashtabula, Ohio.
(Photo: I. T. Frary)
travers and composing his panelling of the mouldings at A. He varies only in his fanlight which does not follow the Benjamin plate. In one rural example of this doorway on the highway near Northfield, Vermont, the entablature avoids the complexity of the diamond block and is content with a simple inset panel perfectly plain. The fanlight in this plate which the Ashtabula builder neglected to use can be found in a house at 88 Broad Street in Charleston, South Carolina, whose detail in all other respects is derived from other sources (Fig. 146).

Another popular frontispiece in the Practice of Architecture is found in plate 26 (Fig. 147). This doorway is reproduced several times within the area of Beverly, Massachusetts, alone and has been noted in rural examples as far north as Bethel, Vermont. It seems to have been particularly popular in the Ohio area. In Beverly the type as exemplified by a house at 263 Elliot Street includes diamond panels at the corners as well as in the central panel above the door. This may be a result of the builder's own imagination or he may have taken the idea from plate 47 (Fig. 148) of the Practice of Architecture in which the lintel of the fireplace there shown includes this same triple use of the diamond panels. There is another interesting example in New London, Connecticut (Fig. 149) in which the architrave band across the top of the door has been raised to include a fanlight and the central panel reproduces the anthemion design at B in plate 25 (Fig.
Figure 146. Number 88 Broad Street, Charlestown, South Carolina.
(Photo: I. T. Frary)
Figure 148. Practice of Architecture (1833). Plate 47. Chimney pieces.
while a single palmette has been carved in all the corner blocks.

Two frontispieces of considerable interest are shown in plates 28 and 29 (Fig. 90). Both compositions, combining as they do the Early Republican elliptical fanlight with the heavier, more angular Greek forms and detail, do not seem to have been very popular. The writer knows of but one example of each: the Rice-Langworthy House in Litchfield, Ohio, which is almost an exact copy of plate 28, and the Hervey House on Middle Street in Newburyport, Massachusetts. In the latter case plate 29 has been reproduced quite faithfully in all its details with the exception of the ornamental coping above the cornice which has been omitted. In the pilaster of this composition, however, can be found a motif which like the meander of plate 28 of the Practical House Carpenter appealed to the builders of the period through its simplicity, and which became immensely popular. There are endless examples of this detail in the northern counties of Ohio alone, particularly in rural houses of extremely simple character unenlivened by any other decorative detail. The house shown in figure 150 just south of Wellington, Ohio, is characteristic, and illustrates a not entirely uncommon practice in which the palmette motif is extended also to the pilasters supporting the main entablature of the house.

Elsewhere in this work one notes the use of cast-iron
Figure 149. House. New London, Connecticut.

(Photo: I. T. Frary)
Figure 150. House. Wellington, Ohio.

(Photo: I. T. Frary)
forms which become increasingly popular as the century progresses. A lack of any adequate study on the subject at present makes it difficult to determine just how extensive was the role which Benjamin played in the dissemination of these forms or how popular were the designs which he published. At least one example taken from Benjamin’s plate 60 (Fig. 151) can be seen in the iron railing of the porch of the “King’s House” at Zoar, Ohio (Fig. 152), in which the fence is composed of motifs inspired generally by A and quite literally by D of that plate.

In the last of Benjamin’s works devoted to formal orders and finish detail, the Builder’s Guide, there is a continuation of the basic popularity of his designs and the same wide use, particularly in the new West, of his many Grecian profiles. The Matthews House in Zanesville, Ohio, for example, shows a plain portico in the Doric order composed of details from this work (Fig. 153). Particularly noticeable is the treatment of the plancrer of the cornice with palmette block introduced in the corner, a detail found in plate 7 of the Builder’s Guide (Fig. 98). The antae and entablature shown in plate 18 (Fig. 100) which includes the use of a wreath in the entablature was also popular during the period and can more often than not be traced to this plate of Benjamin’s. Houses in both Woburn and Newburyport, Massachusetts, for example, through the reproduction of this detail attest to a use of the Builder’s Guide in that area, and the Samuel Patterson
Figure 123. Church, Bedford, Massachusetts. (Photo: Church leaflet)
Figure 151. Practice of Architecture (1833). Plate 60 (in part). Fences and window guards.
Figure 152. "King's House." Zoaar, Ohio.
(Photo: I. T. Frary)
Figure 153. Matthews House. Zanesville, Ohio.

(Photo: I. T. Frary)
House in Xenia, Ohio (Fig. 154) is a characteristic example in Ohio.

Among the frontispieces in this work few seem to possess the simplicity of those in the Practical House Carpenter and the Practice of Architecture, and for that reason can be found less frequently. At least one example of plate 27 (Fig. 155) exists in Randolph, New York (Fig. 156) reproduced with more or less respect for the original though not without variations. The panel over the door, for example, has been enlarged and the decorative motif designed by Benjamin in this location is doubled by the builder in a reverse pattern, and he includes as well a design of palmette and honeysuckle motifs in the frieze of the entablature. This latter detail is copied literally from plate 63 of Minard Lafever's Modern Builder's Guide (New York, 1841) one of the few examples known of such a combination of Benjamin and Lafever detail. Just west of Randolph there is another example of this same frontispiece (Fig. 157) simplified now in all its details and obviously executed by a less practiced rural builder whose reproduction of the design over the door is lacking in the fineness shown in the first example. Both of these doorways in Randolph include a use of a new motif shown by Benjamin at "a" in plate 47 (Fig. 158), in the former applied to the architrave of the door and in the latter to the necking of the pilaster.
Figure 154. Samuel Patterson House. Xenia, Ohio.
(Photo: I. T. Frary)
Figure 155. Builder's Guide (1839). Plate 27. Frontispiece.
Figure 156. House. Randolph, New York.
(Photo: I. T. Frary)
Figure 157. House. Randolph, New York.
(Photo: I. T. Frary)
Figure 158. Builder's Guide (1839). Plate 47. Ceiling designs and mouldings.
Perhaps no other single design in this work was so influential as the church design in plate 59 (Fig. 109). A study of the architectural history of the Northwest reveals that the period of the 1830's and 1840's was one of accentuated church building, and available records indicate that this design of Benjamin's, or variations of it, must have been widely reproduced in its day. The small size, however, was not in its favor in the long run, and by and large the type has been replaced consistently with larger and more commodious buildings. A conspicuous exception is St. Luke's Church in Granville, Ohio (Fig. 159), now carefully restored and quite clearly modelled on the general lines which Benjamin established in this plate in the Builder's Guide.12

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Benjamin's influence on other writers of the period seems to have been almost nil, and the reason is not hard to fathom. His earliest works were written at a time when competition from contemporary American sources was virtually non-existent. By the period of the 1830's when other American writers appear on the scene Benjamin had entered his Greek

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12 Records reveal that Minard Lafever was consulted in the design of the pulpit and interior of this church, and he may have had some say in its exterior design as well. The design, as we have noted, was not unique, having been illustrated by both Nicholson and Soane.
Figure 159. St. Luke's Church. Granville, Ohio.

(Photo: I. T. Frary)
Revival phase, and despite the fact that many of his designs were popular among the builders of the period it cannot be denied that Benjamin was never wholly within his metier in working in this style. Beginning with the 'thirties his work had to meet the really serious competition of the much more creative minded publications of Minard Lafever. Benjamin's later works do not seem to have been as popular as the Practical House Carpenter, and this may be traced in some measure to the rising influence of Lafever which would have curtailed, too, any conspicuous influence of Benjamin on subsequent writers.

Equally important is the fact that Benjamin's textual material, particularly in terms of factual data, was taken literally from well-known European sources such as Nicholson and Chambers, available to all writers. The bulk of the writers who follow Benjamin seem to have gone directly to the ultimate sources which he uses rather than crib from an intermediary source. Then, too, by the 1840's when the last of Benjamin's works appeared there were radical stylistic changes in the making which appear fully clothed in the 1850's and which rendered much of his material out of date.

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13 As a matter of fact, we find that these sources where used are generally acknowledged by the American authors in their prefaces while Benjamin's name, so far as we have discovered, never occurs in any such prefatorial attribution, even in those few works which bear the definite impress of his influence.
For all of these reasons we find but little influence upon the writers who followed directly in his wake. Even among those who do borrow from his writing the material taken over is seldom in terms of broad excerpts but only a plate here and there or a few paragraphs of textual material at the most. Thus, for example, we find in the *Builder’s Guide*, published by Chester Hills in two volumes in Hartford in 1834, that portions of a section entitled "The Origins and Progress of Building" are copied practically verbatim from Benjamin’s "Origins of Architecture" in the 1806 edition of the *American Builder’s Companion*, and that the doorway in figure 3 of plate 17 and the ornamental motif in figure 7 of plate 19 are copied from Benjamin’s *Practice of Architecture*, plates 39 (E) and 46 (A) respectively. Similarly, Z. Baker in his *Modern House Builder*, published in Boston in 1857, takes over a roof form from figure 2 of plate 20 in the *Elements of Architecture*, acknowledging on page 106 his indebtedness to Benjamin and describing the plate in Benjamin’s own words. One further instance of such borrowing occurs in Samuel Sloan’s *Constructive Architecture*, published in 1866, in which the author both quotes and paraphrases material in the 1811 edition of the *American Builder’s Companion*, specifically those sections dealing with the orders of architecture in general and mouldings and ornament.

In view of the thoroughly extensive influence of Benjamin upon the architecture of America in the early nineteenth
century one need not be disturbed over this apparent lack of influence on subsequent writers. In terms of over-all appraisal it is probably safe to say that no other single series of nineteenth century architectural handbooks can compare with Benjamin's in the extent of their influence and in the number of details reproduced from their plates. During a period of rapid physical expansion and material growth Benjamin satisfied a romantic desire for "beauty" and a critical need for economical solutions of practical building problems. Of the man himself and his artistic worth little enough has been said. Few have been as harsh in their judgment as Aymar Embury who speaks of Benjamin in his Greek Revival phase as having "fumbled its motives unskillfully. . . ." Perhaps little of the work of the Greek Revival which we see in the old houses of the period from 1820 to 1840, he continues, "had architectural motives such as doors, chimney pieces, etc. as bad as those which he recommends for use."14 Yet it was Embury who first rescued Benjamin from the more or less oblivion into which he had fallen in the later nineteenth century, and whatever the artistic evaluation of his work there are few today who deny his extraordinary influence in the spread and dissemination of first the Adamesque forms of Pain, then Bulfinch, and finally the Classic forms of the Greek Re-

al which he introduced to the American builder, though skillfully adapted to native conditions, can generally be traced to the creative thought of others whom Benjamin is not always careful to acknowledge. Large portions of his text and many of the new and advanced techniques he champions are taken over boldly with little hint of their true authorship. Interestingly enough, one writer who followed Benjamin by only a few years calls early attention to this fact (which it must be confessed was not too unusual for the time). Describing the development by Peter Nicholson of a truss in which iron rods were substituted for wooden king and queen posts Thomas Silloway in his Text Book of Modern Carpentry goes on to trace its history in America. At what time, or by whom, the idea was first practically carried out in this country is uncertain, he admits. "The burden of evidence, however, indicates, that, although first published by Mr. Asher Benjamin, he was indebted for the suggestion to Mr. Charles G. Hall . . . ," 17 an Englishman who had made much use of the device since his arrival in this country from England in 1823. Mr. Silloway does not hesitate, however, to give full credit to Benjamin in the spread of this information. "The work of Mr. Benjamin's was no sooner published," he writes, "than a re-form commenced, which has steadily advanced, until its great

17 Silloway, Thomas W. Text Book of Modern Carpentry . . . (Boston, 1858), p. 105.
value and economy are universally acknowledged."

If Benjamin seems a little less skilled in the application of decorative detail throughout his later period, if indeed as Embury suggests he has fumbled its motifs, we should recall that his major interest seems to have shifted to the then newly important science of carpentry in which his contribution, particularly in terms of the tests made on American timber and in general the gospel of new techniques which he brings to rural builders is inestimable. It is safer, perhaps, to recognize in Benjamin a cultural rather than an artistic phenomenon. He was an unsophisticated man who succeeded almost entirely by his own efforts in a period when there were few professional architects. He was aware of the needs of those men who, like himself, had been or were practical builders, and he set out to supply working solutions in much the same way that the itinerant limner supplied simple, understandable likenesses.

In conclusion, then, we recognize in Benjamin the first American architect to realize in concrete form the need for architectural handbooks adapted to the practice and native conditions of the young Republic and who kept ever before him the needs of the practical builder. Despite their reliance upon English prototypes, his seven works are not only

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18 Ibid. Benjamin's truss with iron queen posts is shown in plate 62, figure 2 of the Builder's Guide (Fig. 110).
pioneer efforts in the field of American architectural publications, but are directed at all times consciously to the American builder. They include as well no small number of designs in which the author has allowed his own imagination to redefine standard European forms. If they did not look forward with the startlingly progressive acumen reflected in the work of such contemporaries as Mills and Strickland they did at least help to establish a level of uniformity in style and competence in practice among rural builders which saved much of their work from complete provincialism. Within relative limits Benjamin remained consistently abreast of stylistic trends, and this, too, insured a large measure of his continuing popularity. As a practicing architect he ranks among the lesser lights of his period, but as an instructor, as a country builder's assistant, versed in practical matters and gifted with an ability to communicate these matters in simple graphic form he remains pre-eminent in the field of American architectural history.
Appendix A

Asher Benjamin's complete works:

The country builder's assistant: containing a collection of new designs of carpentry and architecture. . . .
Greenfield, Massachusetts: printed by Thomas Dickman, 1797.

---- Boston: printed by Spotswood and Etheridge, 1798.
---- Greenfield: printed by John Denic, 1805.

The American builder's companion; or, A new system of architecture particularly adapted to the present style of building in the United States of America. . . . Boston: Etheridge and Bliss, 1806.


The rudiments of architecture; being a treatise on practical geometry, on Grecian and Roman mouldings: showing the best method of drawing their curves, with remarks on the effects of both. Also on the origin of building, on the five orders of architecture, on their general and particular parts and embellishments; with examples for cornices, base and surbase mouldings, architraves, and stairs. . . . Boston: printed by Munroe and Francis, 1814.


The practical house carpenter. Being a complete development
of the Grecian orders of architecture . . . containing one example of the Tuscan order, three examples of the Doric order, three examples of the Ionic order, one example of the Corinthian order, and one example of the Composite order . . . to which are added a series of designs for porticos, frontispieces, doors. . . .


---- Boston: Benjamin B. Mussey, 1841.

---- Boston: Benjamin B. Mussey, 1841.

---- Boston: L. Coffin, 1843.

---- Boston: L. Coffin, 1844.

---- Boston: Benjamin B. Mussey, 1845.

---- Boston: Benjamin B. Mussey, 1848.

---- Boston: Benjamin B. Mussey & co., 1850.

---- Boston: Benjamin B. Mussey & co., 1851.

---- Boston: Benjamin B. Mussey & co., 1853.

---- Boston: Benjamin B. Mussey & co., 1854.


---- Boston: Sanborn, Carter, Bazin and co., n.d. (1857?)

Practice of architecture. Containing the five orders of
architecture and an additional column and entablature, with all their elements and details explained and illustrated. For the use of carpenters and practical men. ... Boston: The author, and Carter, Hendie & co., New York: Collins and co., 1833.


The builder's guide, illustrated by sixty-six engravings, which exhibit the orders of architecture. Designed for the use of builders, particularly of carpenters and joiners. ... Boston: Perkins & Marvin, Philadelphia: Henry Perkins, 1839.

---- Boston: Benjamin B. Mussey, 1843.

---- Boston: Benjamin B. Mussey, 1845.

---- Boston: Benjamin B. Mussey and company, 1850.

---- Boston: Benjamin B. Mussey and company, 1854.

---- Boston: Bazin and Ellsworth, n.d. (1858-62)

Elements of architecture, containing the Tuscan, Doric, Ionic and Corinthian orders, with all their details and embellishments. Also the theory and practice of carpentry, exhibiting thirty-six experiments made in various ways on European timber by European artists; and on the

Appendix B

Owners of Asher Benjamin's books:

It has been estimated that some thirty to forty thousand copies of Benjamin's total published works were in circulation in the United States throughout the early and mid part of the nineteenth century. It can be shown, too, that such well-known architects and builders as Samuel McIntire of Salem, Massachusetts, Charles Bulfinch of Boston, John Holden Greene of Providence, Rhode Island, and Matthias Skryock of Lexington, Kentucky, to mention but a few, owned or had access to one or more of Benjamin's works. The following list is designed to furnish a beginning roster of other contemporary owners of Benjamin, based on names and inscriptions in the books themselves. Name of the work and present location are included in each case.

"Samuel S. Wilcox Lebanon Ct"


"Franklin Jones Book Shelburn Mass 1847"

Practical House Carpenter, 1841. Oberlin College Library.

"George Peck Westville Ct"

American Builder's Companion, 1827. Oberlin College Library.

"Oliver Holman's Booke Bolton"
"Benjamin Jewett 1806"

Country Builder's Assistant, 1800. Rotch Library, MIT.

"The Property of Jonathan Gross Ashburnham"

American Builder's Companion, 1811. Boston Public Library.

"Elias Lyman Southampton"

Practical House Carpenter, 1832. Boston Public Library.
George Daniels, Keene, New Hampshire.

Practical House Carpenter, 1856. Harvard Library.

Asaph Holmes, Kingston, Massachusetts.


James (Jared?) Lincoln (?), Boston, Massachusetts.


John Field, Enfield
John Pilsbury, Sutton


James H. Rand, Lowell, Massachusetts.


"The Gift of the Author, A. Benjamin, Esq. of Boston"


Charles Deming


William Eberly

Practice of Architecture, 1835. Boston Public Library.
Glossary

(The following architectural terms, used throughout this dissertation, are defined wherever possible in Benjamin's own words. The three principal sources are the glossaries in the Practical House Carpenter (PHC), the Builder's Guide (BG), and the Elements of Architecture (EA). Definitions which Benjamin does not include in his own glossaries are supplied from standard modern texts.)

Annulet. "A small square moulding, which crowns or accompanies a larger. Also that fillet which separates the flutings of a column." (BG)

Anta. "A name given to a pilaster when attached to a wall. . . . They are not usually diminished, and in all Greek examples their capitals are different from those of the columns they accompany." (BG)

Anthemion. An ornament of floral or foliate form much used by the Greeks and arranged in a radiating cluster, but always in relief.

Arcade. "An aperture in a wall, with an arched head; it also signifies a range of apertures with arched heads." (EA)

Architrave. "The lower of the primary divisions of the entablature. It is placed immediately upon the abacus of the capital." (BG)

Astragal. "A small moulding, whose profile is semi-circular. . . . The Astragal is often cut into representations of beads and berries. . . ." (BG)

Attic. A low story or wall above the main order of a facade in the classical styles.

Back of a hip. "The upper edge of the hip rafter, between the two sides of a hipped roof, formed to an angle so as to range with the rafters on each side of it." (BG)

Baluster. "A small pillar or pilaster, serving to support a rail." (BG)

Balustrade. "A connected series of several balusters, as on balconies, terraces, around altars, &c." (BG)
Bannister.  (See baluster.)

Base.  "The lower part of a column, moulded or plain, on which the shaft is placed." (BG)

Beam.  "An horizontal piece of timber used to resist a force, or weight, as a tie-beam, which acts as a string or chain, by its tension. . . ." (BG)

Bed mouldings.  "Those mouldings in all the orders between the corona and frieze." (BG)

Belfry.  "... the part of a steeple in which the bells are hung." (PHC)

Butt joint.  Any joint made by fastening the parts together end to end without overlap, and often strengthened, as with a strap or straps.

Cap.  "In joinery; the uppermost of an assemblage of parts, as the capital of a column, the cornice of a door, &c." (EA)

Capital.  "The head or uppermost member belonging to a column or pilaster." (BG)

Caryatides.  "Figures of women, which serve instead of columns to support the entablature." (BG)

Chimney piece.  A decorative construction, as a mantel or the like, over a fireplace.

Colonnade.  "... a range of columns, whether attached or insulated, and supporting an entablature." (PHC)

Column.  "A member in architecture, whose vertical section through the axis is generally a frustrum of an elongated parabola. Its plan is circular, and it consists of a base, a shaft or body, and a capital." (BG)

Composite order.  A modification of the Corinthian order, combining angular Ionic volutes with the acanthus-circled bell of the Corinthian.

Corinthian order.  The lightest and most ornate of the three Greek orders, characterized especially by its bell-shaped capital enveloped with acanthus leaves.

Corona.  "The flat square and massy member of a cornice, whose situation is between the cymatium above, and the
bed moulding below. . . ." (BG)

**Cornice.** "The projection, consisting of several members, which crowns or finishes the superior part of an entablature, or of any other part to which it is attached." (BG)

**Cupola.** "A small room either circular or polygonal, standing on the top of a dome." (BG)

**Cyma.** "... called also Cymatium, its name arising from its resemblance to a wave. A moulding which is hollow in its upper part and swelling below. Of this moulding there are two sorts, the Cyma Recta, just described, and the Cyma Reversa, whose upper part swells, whilst the lower part is hollow." (BG)

**Dado.** "The die, or that part in the middle of the pedestal of a column, which is between the base and cornice." (BG)

**Dentil.** "Small square blocks or projections used in the bed mouldings of the cornices in the Ionic, Corinthian, and Composite orders." (BG)

**Diamond panel.** Any panel whose surface has been bevelled down in four directions from a point in the center.

**Dome.** "The spherical or other formed concave ceiling over a circular or polygonal building." (BG)

**Doric order.** The simplest (and possibly the oldest) of the Greek orders consisting of fluted shaft without base, simple quarter round capital, and entablature with triglyph and metope frieze, etc.

**Echinus.** "The same as the ovolo or quarter round, but perhaps that moulding is only properly called echinus when carved with eggs and anchors, as they are termed." (BG)

**Entablature.** "The assemblage of parts supported by the column. It consists of three parts, the architrave, frieze and cornice." (BG)

**Facade.** "The face or front of any building towards a street, court, garden or other place, more usually however used
to signify the principal front." (BG)

**Falling mould.** "... the two moulds which are to be applied to the vertical sides of the railpiece, in order to form the back and under surface of the rail, and finish the squaring." (PHC)

**Fanlight.** A semicircular, rectangular, or elliptical window with radiating sash bars, like the ribs of a fan, placed over a door or window.

**Fascia.** "A flat member in the entablature or elsewhere, being in fact nothing more than a band or broad fillet. The architrave in the more elegant orders is divided into three bands: these are called fasciae." (BG)

**Festoon.** "An ornament of carved work, representing a wreath of garland of flowers or leaves, or both interwoven with each other. It is thickest in the middle, and small at each extremity, where it is tied, a part often hanging down below the knot." (BG)

**Fillet.** "The small square member which is placed above or below the various square or curved members in an order." (BG)

**Fluting (and flutes).** "The vertical channels on the shafts of columns..." (BG)

**Fret.** "A kind of continued knot or ornament consisting of one or more small fillets running vertically and horizontally, and at equal distances in both directions. The sections of the channels below the surface of the fillet are rectangular." (BG)

**Frieze.** "The middle member in the entablature of an order, which separates the architrave and cornice." (BG)

**Frontispiece.** "The face or fore front of a house, but it is a term more usually applied to its decorated entrance." (BG)

**Girder.** "The principal beam of a floor for supporting the binding joists." (BG)

**Groin.** "The lines formed at the intersection of two arches which cross each other." (BG)

**Guilloche.** "An ornament composed of fillets in curvilinear directions, which form a continued series by their repe-
Guttalae. "The frusta of cones in the Doric architrave, under the triglyph in the Doric order, which occurs below the taenia. They are also found in the under part of the mutuli or modillions of that order." (BG)

Hips. "The inclined pieces of timber at the angles of a roof; hence a hipped roof is that in which all the four sides have the same inclinations to the horizon." (BG)

Honeysuckle. (See anthemion.)

Impost. "The capital of a pilaster supporting an arch. The impost varies in form according to the order with which it is used." (BG)

Intercolumniation. "The distance between two columns." (BG)

Intrados. "The interior or concave curve of the arch stones." (BG)

Ionic order. One of the Greek orders, distinguished especially by the spiral volutes of the capital.

Jamb. "The side pieces of any opening in a wall, which bear the piece that discharges the superincumbent weight of the wall." (BG)

Joinery. "The art of framing wood for the finishing of houses." (BG)

Joist. "Those timbers in a floor which support, or are necessary to the support of the boarding or ceiling." (BG)

Keystone. "That stone in an arch, which is equally distant from its springing extremities." (BG)

King post. "The middle post of a trussed piece of framing for supporting the tie beam at the middle and the lower ends of the struts." (BG)
Mantel. "The horizontal cross-piece placed on the jamb of a chimney."

Medallion. ". . . a circular tablet, ornamented with embossed or carved figures, bustos, &c." (PHC)

Metcpe. "The square space between two triglyphs of the Doric order." (BG)

Minute. "The sixtieth part of the diameter of a column. It is the sub-division by which architects measure the smaller parts of an order." (BG)

Mitre. "The diagonal junction of two pieces of wood, stone, etc." (BG)

Modillion. "An ornament in the entablature of the richer orders, resembling a bracket. Modillions are placed, with the intervention of one or two small horizontal members, under the corona. They should be so distributed that their centres may always stand over the centres of the columns. In the Corinthian order they are enriched with carving; in the Ionic and Composite they are generally more simple. The term Mutulus, which is confined to the Doric order, is in fact the same as Modillion." (BG)

Mortise. "A species of joint, wherein a hole or incision of a certain depth is made in the thickness of a piece of wood, for the reception of another piece called a tenon." (BG)

Mouldings. "Those parts of an order which are shaped into various curved or square forms." (BG)

Muture. Identified by Benjamin with the modillion (q.v.). It varies, however, in depth (being much more shallow), is broader, and is ornamented with guttae.

Necking. "The space between the astragal above the shaft, and the annulet thereover." (BG)

Newel. "The solid, or imaginary solid when the stairs are open in the centre, round which the steps are turned about." (BG)

Niche. "A square or cylindrical cavity in a wall or other solid, generally for the reception of a statue." (BG)
Ogee. "The same as Cyma, which see." (BG)

Order. "An assemblage of parts, consisting of a base, shaft, capital, architrave, frieze and cornice . . . having been contrived or designed in five several species, Tuscan, Doric, Ionic, Corinthian, and Composite; each of these has its ornaments, as well as general fabric, proportioned to its strength and use. These are the five orders of architecture, the proper understanding and application of which, constitute the foundation of all excellence in the art." (BG)

Ovolo. "A moulding sometimes called the quarter round, from its profile being the quadrant of a circle. . . ." (BG)

Palladian window. The Venetian window (q.v.) with central section enlarged and rounded over.

Palmette. A Greek ornament based on the fan-shaped cluster of palm leaves.

Pedestal. "The substructure under a column or wall. A pedestal under a column consists of three parts, the base, the die, and the cornice." (BG)

Pediment. "The low triangular crowning ornament of the front of a building, or of a door, window or niche. Pediments are however sometimes in the form of the segment of a circle when applied to doors and windows." (BG)

Pilaster. "A square pillar engaged to a wall." (BG)

Piller. "A column of irregular form, always disengaged and always deviating from the proportions of the orders, whence the distinction between a pillar and a column." (BG)

Plancer. "The same as soffit, which see." (BG)

Porch. "... the kind of vestibule at the entrance of temples, halls, Churches, &c." (FHC)

Portico. "A place wherein persons may walk under shelter, sometimes raised with arches in the manner of a gallery . . . . This word is also used to denote the projection before a church or temple, supported by columns." (BG)

Profile. "The contour of the different parts of an order." (BG)
Queen post. One of two vertical tie posts in a roof truss, or similar framed truss.

Quirked mouldings. "Those which are suddenly convex, generally in one of the forms of a conic section." (BG)

Rafters. "All the inclined timbers in the sides of a roof; as principal rafters, hip rafters, and common rafters." (BG)

Raking. ". . . a moulding whose arrises are inclined to the horizon in any given angle." (PHC)

Ramp. "A concave bend in the capping of any piece of workmanship. Thus in stairs it is that concavity which occurs over risers or over a half or quarter space by the sudden rise of the steps." (BG)

Reeding. A small convex moulding, a reed; the reverse of fluting.

Regula. The block under each triglyph, beneath the taenia of the Doric entablature, from which guttae are pendant.

Rib. "Curviform timbers whereunto the laths are nailed in an arched or coved plaster ceiling." (BG)

Riser. "The upright part of a step." (BG)

Sash. "The frame work which holds the squares of glass in a window balanced by weights on each of its sides, hung thereto by lines running over pulleys at the top of the sash frame." (BG)

Shaft. "That part of a column which is between the base and capital. . . ." (BG)

Soffit. "The ceiling or under side of a member in an order. It also means the under side of the larmier or corona in a cornice; also the under side of that part of the architrave which does not rest on the column." (BG)

Spandrel. "The space about the flanks or haunches of an arch or vault above the intrados." (BG)

Spire. ". . . a slender pyramid of a polygonal plan." (PHC)
Strut.  "Pieces of timber which support the rafters, and
which are supported by the truss posts."  (BG)

Surbase.  "The upper base of a room, or rather the cornice
of the pedestal of the room, which serves to finish the
dado, and to secure the plaster against accidents which
might happen from the backs of chairs, or other furni-
ture at an equal height."  (BG)

Taenia.  "The listel above the architrave in the entabla-
ture of the Doric order."  (BG)

Torus.  "A moulding of semi-circular profile used in the
bases of columns."  (BG)

Triglyphs.  "The ornament of the frieze in the Doric order,
consisting of two whole, and two half channels, sunk
triangularly on the plan."  (BG)

Truss.  "A frame constructed of several pieces of timber,
and divided into two or more triangles by oblique
pieces, in order to prevent the possibility of its re-
volving round any of the angles of the frame."  (BG)

Tuscan order.  A Roman order, similar in general character
to the Doric.

Venetian door.  "... a door lighted on each side."  (PHC)

Venetian window.  "... a window having three separate ap-
 pertures."  (PHC)

Volute.  "The scroll which is appended to the capital of
the Ionic order.  There are volutes also in the Corin-
thian order, but they are smaller, more numerous, and
always diagonally placed.  In the Composite, the vol-
utes are also diagonally placed, but larger than in the
Corinthian order."  (BG)
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