

# ART TO ZOO

News for Schools from the Smithsonian Institution, Office of Elementary and Secondary Education, Washington, D.C. 20560

DECEMBER 1981

## House Keys

No doubt you're so used to seeing it that you've seldom really *looked* at it, but that old house down the street, with its towers and dormers and porches, has fascinating things to tell about your community and its heritage.

As archeologists and historians have always known—and many teachers and students are now taking pleasure in finding out—the old houses of your community can give insights into economic history, into changes in zoning and building codes, into the growth and use of technology, and into everyday life. And the key to these insights is in learning to look at old houses intelligently.

### Which Old House?

For most teachers and students, the best old houses to study are those built between 1870 and 1900. Almost every American community has at least a few examples of houses from this period, and in fact the styles of domestic architecture remained consistent across the country from 1870 to 1900. While regional variations did occur, the basic Victorian style prevailed from one end of the country to the other—which means that your students can discuss Victorian architecture in general without being confused by regional differences.

Another reason Victorian houses merit special attention has to do with the fact that every period in history expresses itself mainly through one kind of building. The Middle Ages found expression in cathedrals; the Renaissance spoke through palaces; and we in late 20th-century America have concentrated our energies on the shopping mall. The Victorians, however, were much more domestic than anyone before or since, delighting in the design and construction of the private dwelling. Thus, in studying *houses* built between 1870 and 1900, students can explore architectural qualities typical of the period as well as expressive of the Victorian view of life.

### Victorian Architectural Patterns

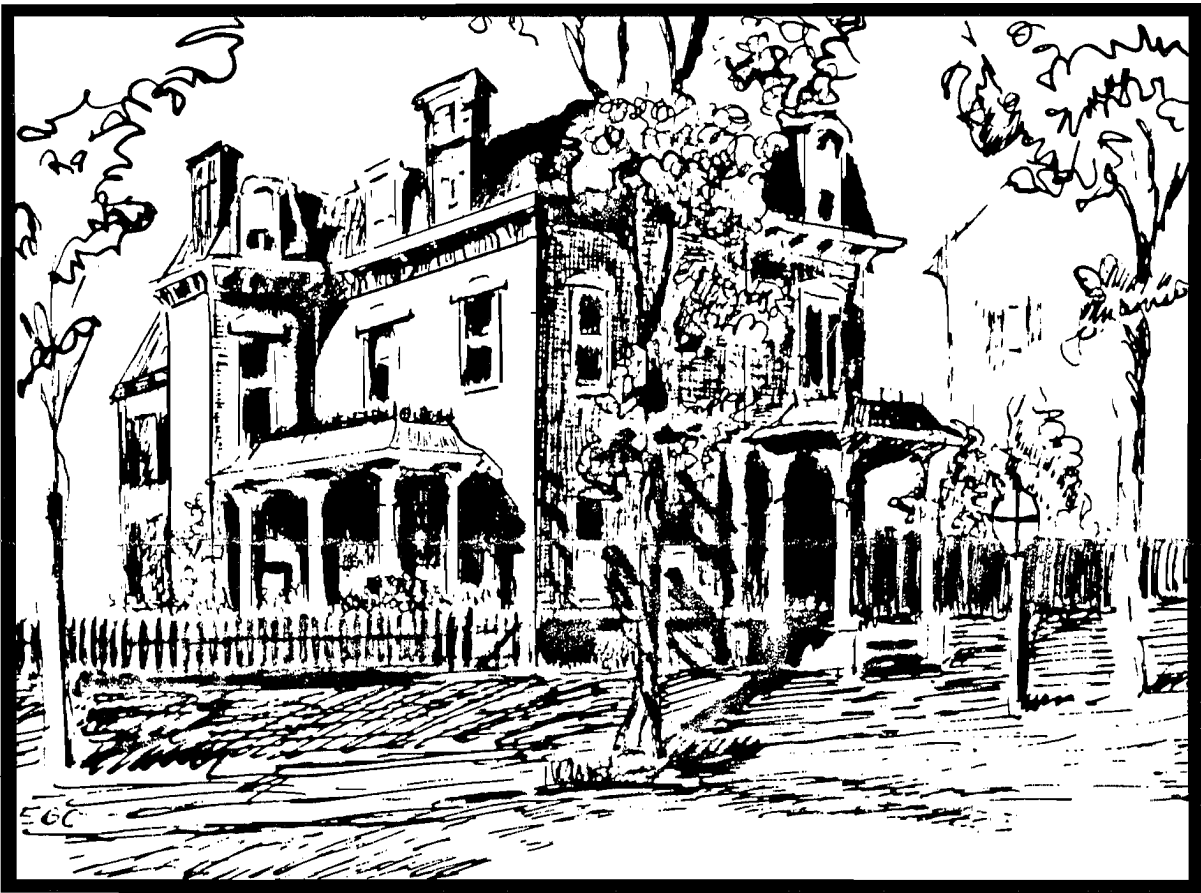
The general pattern of the Victorian house celebrates diversity. The house-merchant (builder) or architect would select a variety of elements not so much for unity as for contrast, and he would then use those elements so as to set one another off.

Decoration was as integral to the Victorian building as breathing is to life, with the result that Victorian houses have a special *exuberance* in the way of children who run and jump and dance not because they must exercise but only because it feels good. This exuberance shows in the kinds of choices a builder would make in putting up a house. A quick outline of these choices—which covered a range of possibilities of materials and architectural elements—can help us find the keys to what distinctive things to look for in a Victorian house.

### Materials.

Availability was the biggest factor in determining the materials chosen for a house. For example, brick was the common material in Washington, D.C., because the soil here is mostly clay. In San Francisco, wood houses were common because wood was easy to obtain. Nearby sources of brownstone supplied the builders of mansions in New York City.

Materials were also chosen for their decorative qualities. A brick house might have a stone foundation or a stone doorway. The windows might have stone lintels and sills. Glazed (colored) brick might be used to create designs and accents, as might wooden supports or brackets. In general, the *variety* of tex-



tures and materials is an important key to the vitality of Victorian architecture.

### Doorways and windows.

Doorways and windows offered the house-builder a range of decorative forms. Lintels and sills might be carved more or less elaborately. Panes of glass could be large or small. Special materials might be used to set off the doorway or windows so as to provide a jolt of visual excitement. Always the idea was to make these features *noticeable*—a major focus of ornamentation.

### Towers and bays.

In contrast to the modern ranchhouse, Victorian houses were generally *vertical* structures, usually two or three stories tall. While towers and bays may have been designed primarily to provide additional room or light, their over-all *visual* effect was to emphasize the verticality of the house, helping to draw the viewer's eyes up. Often the towers were constructed of materials different from the materials used in the main part of the house. Towers and bays also provided further areas for ornamentation.

### Rooflines.

Builders of Victorian houses delighted in complex rooflines. A mansard roof punctuated with dormers might be used alone or in combination with other roof designs. A gable might add angularity to a roof but soften its thrust with an ornamented, carved piece of wood attached to its lower edge (a bargeboard or vergeboard). The eaves of a house might be supported by delicately carved brackets. Bays and towers drew attention to rooflines and added complexity; towers often were topped off with interesting geometric shapes, like cones or bells.

### Decoration.

All the functional elements of a Victorian house were decorative in one way or another . . . and then added to these were elements that were purely and *wholly* ornamental. For instance, finials (fancy ornaments crowning towers) served to extend the verticality of the house. Wrought ironwork in fences and balustrades contributed additional lines and textures. Stained glass colored the textures of windows. Patterns were created out of bricks hydraulically pressed

*continued on page 4*

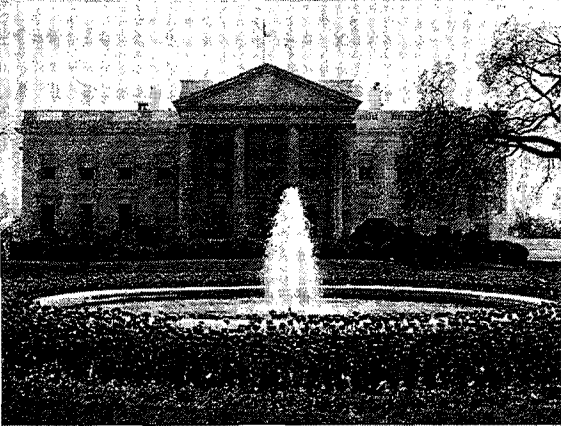
Data Retrieval Sheet on Architectural Features*					
architectural features	House#1	House#2	House #3	House #4	House #5
windows [draw shape(s)]					
doors [draw shape(s)]					
roofline [draw shape]					
now list any other architectural features you can see					

\*As used here, the term *architectural features* means the basic parts of a house.

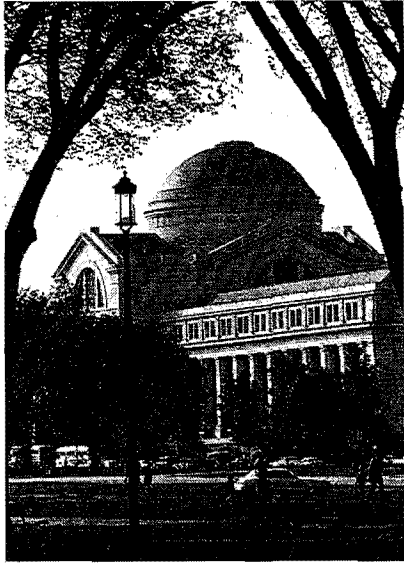
Jefferson Building, Library of Congress (1888–1897). Architect: John L. Smith-meyer. Things to look for: rusticated first floor, columns used as decoration, and statues on the façade.



The White House (1792–1800). Architect: James Hoban. Things to look for: columns used to support a pediment.



National Museum of Natural History (1903–1910). Architect: Hornblower and Marshall. Things to look for: columns and dome.



# How Public Buildings Stand on Ceremony

by TOM LOWDERBAUGH

Every town has at least one—a bank, a library, a courthouse, a town hall, a train station—some public building set off as . . . *important*. You walk down the street, turn the corner, and there it is in front of you—a building that by its very structure says, “I’m important and what happens inside me is important too!”

Like old houses, public buildings are often ignored, but they too merit our attention. These important buildings stand in public places as witnesses to our values and institutions, our collective dreams and aspirations—indeed to all the things that really matter in our society. In other words, these are buildings that *stand on ceremony*. And although we may take our public buildings for granted and not pay attention to their ceremonial statements, the buildings are ready to speak to us nonetheless.

How can you help your students hear—and understand—what our public buildings are saying? The best way is through significant detail presented in manageable units. The following questions, which draw attention to specific features of a building, can help direct your students’ explorations.

## 1. Where is the building located?

Often an important public building is placed in a convenient location, close to the heart of the town, where the property values were (and maybe still are) the highest. It may even sit at the center of the grid pattern that defines so many American cities and towns.

And there are other ways location can point out that the building is special. For example, the building may sit atop a hill or a rise, or it may be surrounded by a lawn or a park, which sets it off from the rest of the town and its daily concerns. As we walk towards

the building, we realize from its very apartness that we are going somewhere special. This is an atmosphere quite unlike that of ordinary commercial buildings pushed up against one another, or of houses crowded together on a block.

## 2. What is the building made of?

Not built for a season or even for a generation, these buildings are meant to *last*. As a result, they are usually made from materials like stone or steel that endure a very long time, rather than from shorter-lived materials like wood. These permanent materials are generally more expensive than the materials used for everyday buildings like houses. An air of endurance and cost helps to set public buildings apart.

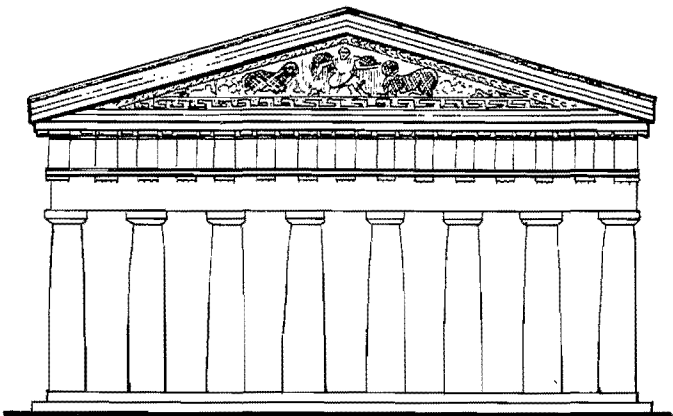
## 3. What does the building make us think of?

When designing a building, an architect may ally himself with a particular tradition, recalling other buildings, young or old. The architect chooses consciously, making the connections between the buildings and their functions. The connection is direct, and it determines how the building looks and what it says about what it is and what it contains. We can see this connection only if we look closely at the building so as to discover some of its key elements.

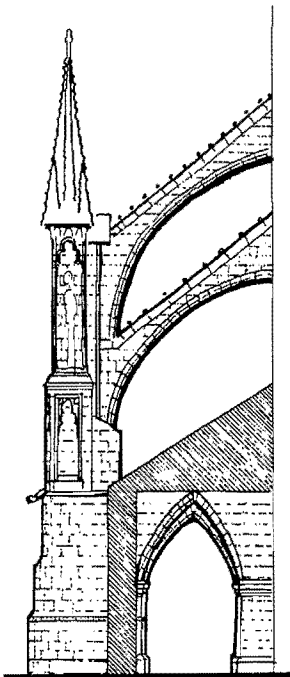
► For example, some buildings make us think of *ancient Greece and Rome*. Recalling civilizations often thought of as reasonable and just, this architectural style is very popular for government buildings, perhaps because we trace our own democratic form of government back to the Greek and Roman peoples.

## Things to Look For

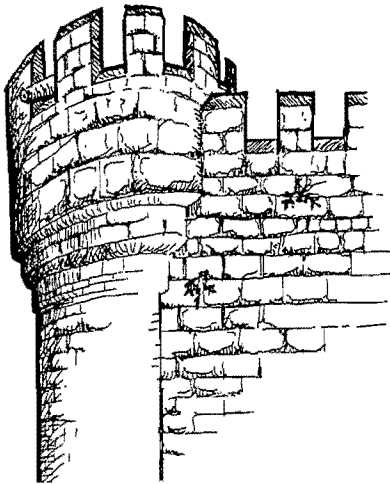
Architectural drawings by Daniel D. Weil.



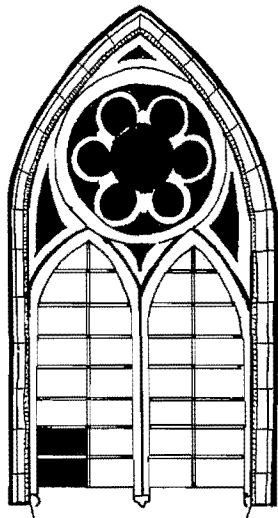
pediment



flying buttress with pier



battlements

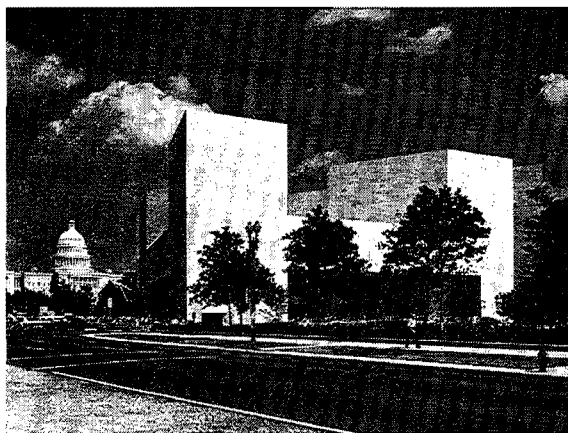


Gothic arch

Brazilian Embassy (1970–1971). Architect: Redig Campos. Things to look for: plain glass walls, use of right angles.



East Building, National Gallery of Art (1971–1978). Architect: I. M. Pei. Things to look for: plain façades, using stone and glass; emphasis on right angles. In the background is the United States Capitol.



Old Executive Office Building (1872–1888). Architect: Alfred B. Mullett. Things to look for: columns used as decoration, pediments, mansard roofs with dormers, rusticated first floor.



An architect who wants to make us think of Greece and Rome uses elements devised centuries ago in those two cities. Especially important in this style of building is the *column* as a structural element; Greco-Roman columns are usually designed according to one of the classical *orders* or styles: Ionic, Doric, or Corinthian. At one or both ends of such a building, the columns may support a triangular-shaped structure called a *pediment*, which may or may not be decorated with carvings. Sometimes the building may be topped with a *dome*, which itself may be either plain or decorated.

► Other buildings, on the other hand, make us think of the *Middle Ages*. These buildings recall a time popularly associated with chivalry, romance, and the grand gesture, a time of faith and mystery and adventure.

An architect who wants to make us think of the Middle Ages alludes to either one of two kinds of building symbolic of that time: cathedrals or castles. This architect's building may have *battlements*, an element originally meant to protect a warrior defending a castle. The windows and doorways may have either round or pointed (gothic) *arches*. If a building is influenced by the cathedral style of architecture, it may be supported by a set of *flying buttresses*, structural elements that support a wall by carrying its weight to a pier.

► Still other buildings try to impress us with their exuberance, borrowing elements from *more than one tradition* and blending these elements into something special. In America, such buildings were common in the second half of the nineteenth century, when an architect might combine design elements from different architectural styles to emphasize a building's massiveness (and thereby its importance) or just to show off various architectural possibilities.

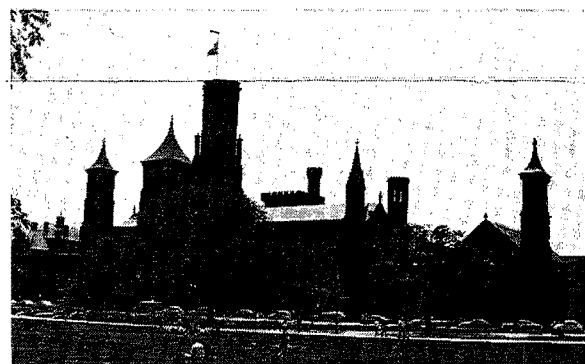
For example, such buildings might use columns—not so much for support as for decoration—placed in groups or sets. Instead of the relatively flat façade of a building recalling Greece and Rome, this kind of building might have its façade decorated with statues or garlands. In addition, it might have a *mansard roof*, as you see illustrated. The main effect of a mansard roof (often punctuated by dormers) is to emphasize a building's massiveness. Or the stonework on the building's first floor might be *rusticated* so as to give a rough and massive effect. Buildings such as these, then, combine massiveness and exuberance to produce an impression of power and vitality.

► Finally, some *modern* buildings, instead of looking backwards to older traditions, place themselves firmly in the present. These buildings present themselves as up-to-date and direct without the distracting, non-functional decorations of earlier times. Such buildings use simple materials like stone, concrete, or glass. One reason for using walls of glass is to dissolve the traditional barrier between the inside and the outside. These modern buildings tend to be sleek and direct, relying on straight lines and right angles (instead of decoration) to make a grand impression.

Once your students have studied a public building, having looked closely so as to be able to answer the above questions, they will begin to understand some of the ways that buildings stand on ceremony. They will begin to see how ceremonial buildings declare what functions are important to a town and to its people—and how these buildings relate their own town to the rest of the world. And the next time they walk past the courthouse, the library, or the town hall, they won't dream of walking by without looking.

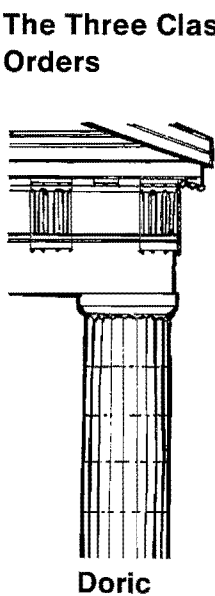
## “Architivity Cards” Available from SITES

*Carpenter's Lace*, a set of “architivity cards,” designed to acquaint children, families, and teachers with the Victorian era and its architecture, is available from SITES (the Smithsonian Institution Traveling Exhibition Services). The cost of each set of cards is \$3.00. To order, write to: SITES, Smithsonian Institution, Washington, D.C. 20560.

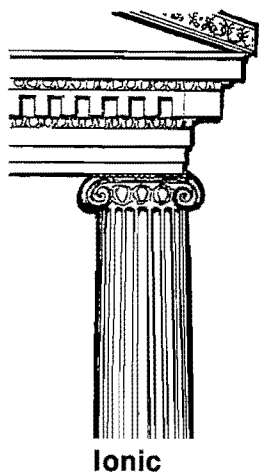


Smithsonian Institution Building (1847–1855). Architect: James Renwick. Things to look for: towers, battlements, round-arched windows.

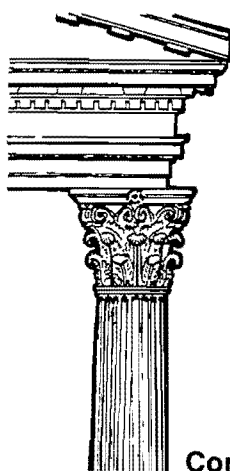
## The Three Classical Orders



Doric

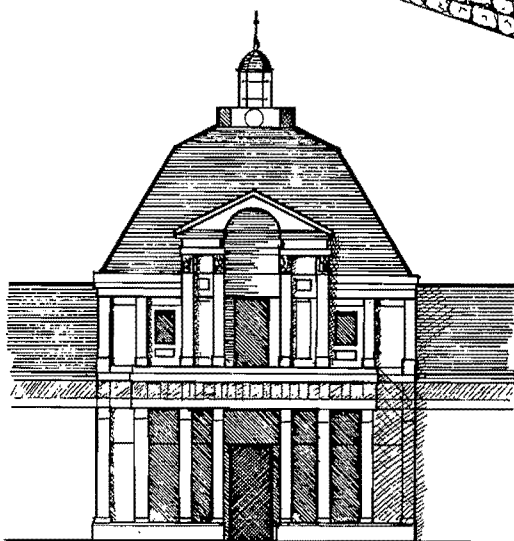
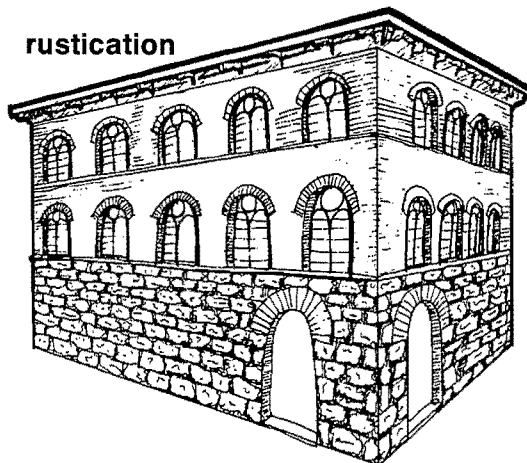


Ionic

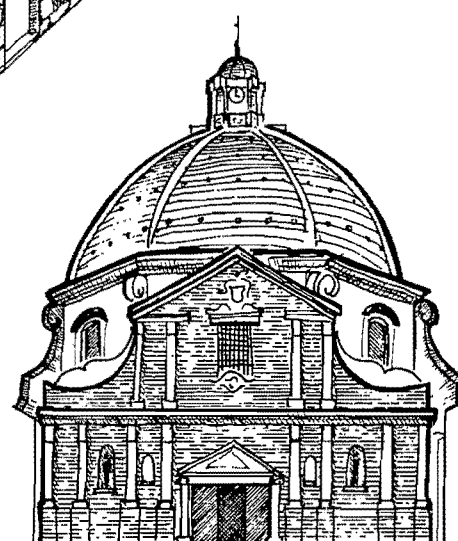


Corinthian

## rustication



mansard roof



dome



into fancy shapes. These bricks could be laid so as to suggest, for example, a basketweave pattern. Ornamental friezes were sometimes laid into the fronts of houses, especially between the brackets supporting the eaves. Since all elements in a Victorian house are decorative, the houses have an aura of richness. The range of detail, the contrast of the parts—all create an exciting and often fantastic visual effect.

### What Can You Learn?

From a study of Victorian houses, students can gain an understanding of architecture and architectural terms while sharpening their powers of observation—and they can become more knowledgeable about the history of their community. For example, during summer workshops sponsored by the Smithsonian's Office of Elementary and Secondary Education, we studied Victorian houses in the Washington, D.C., neighborhood of Capitol Hill and found *in the architecture itself* important clues to the region's history. Right away we saw that almost all of the Victorian houses on Capitol Hill had bay fronts. Differences in the color and texture of the bricks indicated that many of the bays had been added to already standing structures. Furthermore, all of the bay fronts lay along a straight line, equidistant from the street, as did the original house fronts. We guessed from this evidence that at one time some sort of ordinance had determined how far from the street house fronts could be built, and that a later ordinance had allowed bays or other projections to be built closer to the street. (A subsequent check of city records confirmed that such ordinances were indeed passed in the 19th century for the District of Columbia.)

Similarly we were able to identify the relative age of Victorian houses by looking for the use of hydraulically pressed brick. Production of this type of brick began in the latter third of the 19th century—and its use both documents the advance of technology and also indicates the sort of design that excited these later Victorians.

### Developing an Approach

Once you are familiar with the elements of Victorian architecture as outlined above, you are ready to develop a teaching approach in line with your curriculum objectives. In the teaching approach that follows, the Victorian house is seen as a valuable piece of tangible evidence—to serve as a stimulus to further inquiry when used to enrich a unit of study on "architecture," "the community," or "Victorian life."

Essentially the plan is this: After familiarizing

### Smithsonian National Workshop for Teachers

You don't have to live in Washington to study at the Smithsonian!

Again—in 1982—the Smithsonian's Office of Elementary and Secondary Education will offer summer courses for teachers living more than seventy-five miles outside of Washington, D.C.

The national seminars will present ways that teachers can use local museum exhibits and community resources as tools for their own teaching. Past seminar topics have included *Teaching from Objects* and *Using Museums to Teach Writing*. Topics for the 1982 summer session will be announced later this winter. Each national seminar will meet for one week during the month of July.

To enable teachers to keep costs down, the Smithsonian will arrange housing in a local university dormitory. The cost for lodging will be about \$160 for a single room for the duration of the course. Participants will be able to arrange for their own meals.

Accredited by the University of Virginia, the seminar will cost approximately \$140 for tuition plus a \$10 registration fee. The Smithsonian will charge a \$35 materials fee. No scholarships are available.

All courses are open to full-time classroom teachers (grades four through twelve), school librarians (media specialists), and curriculum specialists. Interpreters for hearing-impaired participants can be provided, free-of-charge, for all class work.

Because each class session will be limited in size, selection will be made on a competitive basis. Applications must be postmarked by no later than April 5, 1982; therefore, no applications will be mailed after March 29, 1982. Applicants will be notified by April 30 as to their selection. For an application form, including complete information, write:

NATIONAL SEMINARS  
Office of Elementary and Secondary Education  
Smithsonian Institution  
Washington, D.C. 20560

## CHECKLIST

### Doors.

Look for fanlights . . . sidelights . . . eyebrows . . . carved lintels and sills . . . transoms . . . and letter slots . . . Is the door single . . . or double . . . ? Is it finished by staining . . . or painting . . . ? And how is it decorated?

### Windows.

Look for stained glass . . . arches . . . decorative panels . . . eyebrows. Where are the windows placed . . . ? Are all of the windows the same shape . . . and size . . . ? Does the size of the windows vary as to location (i.e., are the second story windows larger . . . smaller . . . or the same size . . . as the first story windows?) Are the windows single . . . or double . . . ? Count the number of panes . . .

### Roof.

Look for brackets . . . bargeboards . . . gables . . . turrets . . . finials . . . dormers . . . Would you say that this is a mansard . . . or a gable . . . roof, or both . . . ?

### Materials.

Make a list of all the different materials YOU CAN SEE that were used in building this house:

Which of these materials do you think were obtained locally and which do you think were brought in from a distance?

### Other features.

Do you see: Bays . . . ? Towers . . . ? Porches . . . ? Balconies . . . ? Ornamental ironwork . . . ? Anything else . . . ?

### Outline sketch.

Now on the back of your checklist sheet, make an outline sketch of the house and label its different parts.

themselves with the architectural terms defined in the GLOSSARY on *page 4* of the Pull-Out section, students visit a residential neighborhood where you have selected four or five houses for them to look at. The class is divided into groups and each group is given (for ready reference) a map of the neighborhood on which the houses are identified and numbered, plus a copy of the architectural glossary and a DATA RETRIEVAL SHEET ON ARCHITECTURAL FEATURES (*as shown*). After spending about twenty minutes making outline sketches—on the data retrieval sheet—of the basic architectural elements of each one of the selected houses, each group is assigned to take a closer look at the front of *one particular* house, with the help of the CHECKLIST printed here.

### Keying It All Together

Back in the classroom, after each team has reported on its assigned house to the rest of the class, students use the information from the checklists and data retrieval sheets plus information found in picture books (*like those in the bibliography at the end of this article*) to generalize about Victorian architectural qualities. For example, the children may discover that Victorian houses are almost always two or three stories tall or that the houses they looked at were all made from the same kinds of building materials or that the sizes of the windows in many Victorian houses vary according to level, with the largest windows on the first floor, the next largest on the second floor, and so on. In drawing conclusions such as these, students will be learning to see beyond the "gingerbread" that blinds many people to the essential qualities of Victorian architecture . . . and by learning to look intelligently at *Victorian* buildings, they will be developing skills that will enable them to enjoy other styles of architecture as well.

Once your students have thus been introduced to the architectural basics, you may wish to extend the lesson to spark inquiry into a study of "Victorian life" or "the community." In examining late-19th-century photographs of your town or community—available from the archives of your local newspaper or your local historical society—students can find many clues to everyday life in the latter part of the Victorian era. Usually these photographs are of downtown areas. Delivery carts, shop windows and signs, means of transportation, people and their dress, presence or absence of telephone, telegraph, and electrical poles and wires, type of pavements and street lighting (if any) are among the things to look for in such photographs. From this evidence, students can begin to draw conclusions about the Victorian way of life and what it was like to live in your community back then.

As a culminating exercise, have each child draw a clue picture or write a story about a Victorian family who—it's possible to imagine—might have lived in the assigned house. The stories and pictures should include factual information *gotten from books* about food, clothing, family size, the roles of different family members, and work and leisure time activities.

### More House Activities

► Invite the owner of one of the houses the children looked at to come to your classroom and talk about what it's like to live in the house. Ask the person to bring slides or photographs of some of the rooms, plus a floor plan for the children to look at. How were the rooms used back when the house was new, and how are they used now? What changes have been made in the house in the past twenty or so years? What modern conveniences have been added? What clues can you find *in the floor plan* as to family size, style of entertaining, work and leisure time activities, and presence or absence of domestic help?

► Have the children write *real estate ads* for the houses they saw, giving information about the age of the house and the salient architectural features. For example: "You'll like the eaves and nicely carved brackets of this three-storied brick house. Built in the 1880s, with lovely gable roof, bay window, and tower with a turret. Quiet location. Priced to sell!" This exercise might be turned into a game in which the children match ads written by their classmates with *photographs* they have taken of the houses.

► Have students photograph houses—or parts of houses like windows or rooflines—to help them focus their attention on particular architectural features.

► As students open their eyes to the buildings they pass every day, they can gain a heightened sense of their own heritage and of their community's past. The Victorians will come to life and speak through brick and stone about daily life and its qualities.

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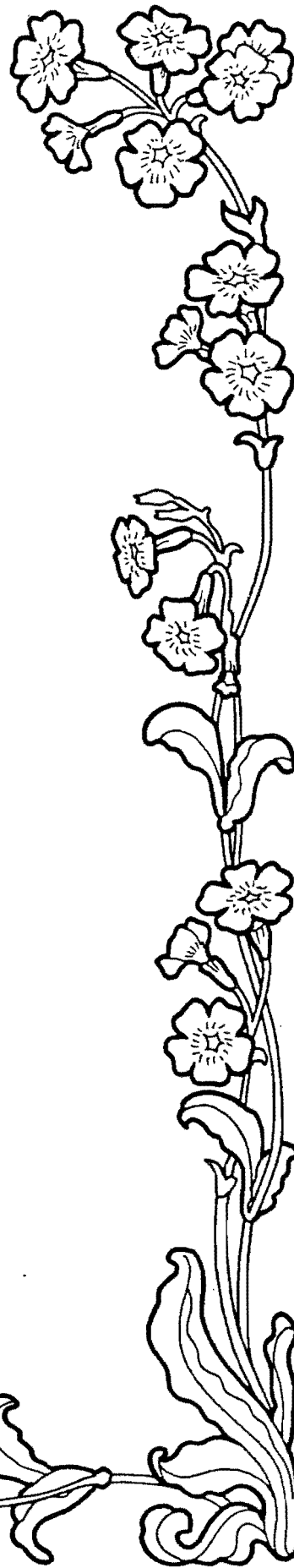
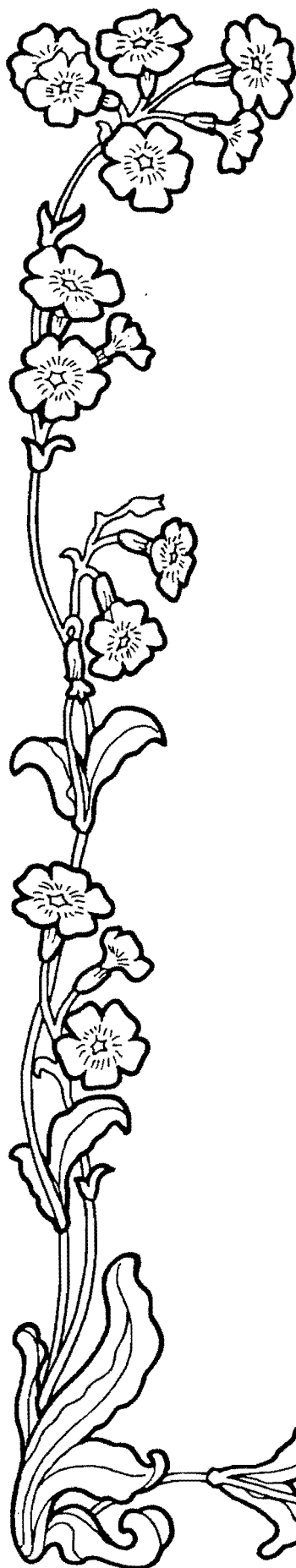
[The Victorian residence shown on *page 1* (drawing by Betty Ochs) is located in Alexandria, Virginia. It was built in 1874 and now belongs to Dr. and Mrs. David Abshire.]



## Fancy on the Inside

Not only were Victorian houses fancy on the outside—they were fancy on the inside too. In furnishing their houses, the Victorians showed a strong taste for what we today would call “clutter.” To them, having lots of pictures, knick-knacks, and other decorative objects around meant solid, cozy comfort. Turn the page to find a picture of a typical Victorian parlor, or formal living room.\* Look around the room and see if you can find all of the things listed in the caption under the picture. Then *color* the picture, in any way you wish, keeping in mind that the Victorians liked to use rich, bold colors in decorating.

\*The picture is from *The Victorian House Coloring Book*, listed in the bibliography on PAGE 4 of this issue of *Art to Zoo*.



### Victorian Parlor

Study this picture and look for these things:

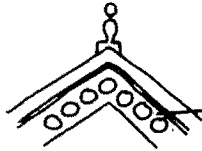
plush table covering, hurricane lamp,  
portrait photographs, piano, sheet music,  
hanging shelf with vase and knickknacks,  
patterned rug, pair of wax flower  
arrangements (under glass), landscape  
painting, marble mantle, fireplace fender,  
potted palm, trailing vines, rocking chair  
with fringed doily.





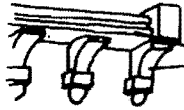
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# Glossary of Architectural Terms



## **BARGEBOARD.**

A board, attached to the edge of a roof at a gable, to hide roof timbers.



## **BRACKET.**

## **CORNICE.**



## **DORMER.**

A vertical window set in a roof, or the roofed structure containing such a window.

## **EAVES.**

The lower border of a roof that overhangs a wall.

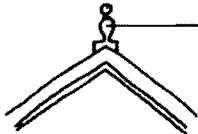
## **EYEBROWS.**

A rounded lintel above a window or door.



## **FANLIGHT.**

A window in the shape of a half circle, with sash bars that go out like the ribs of a fan; placed over a door or window.



## **FINIAL.**

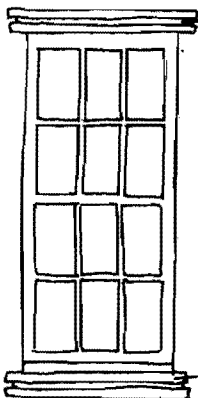
A crowning ornament.



## **FRIEZE.**

## **GABLE.**

The triangle formed by two sides of the roof at the end of a building.



## **LINTEL.**

Supporting structure across the top of a window or door.

## **MANSARD ROOF.**

A roof having two slopes on all sides, with the lower slope steeper than the upper one.

## **SIDELIGHT.**

A window on the side of a doorway.

## **SILL.**

The base of a window frame or door frame.

## **TRANSOM.**

A window above a door.