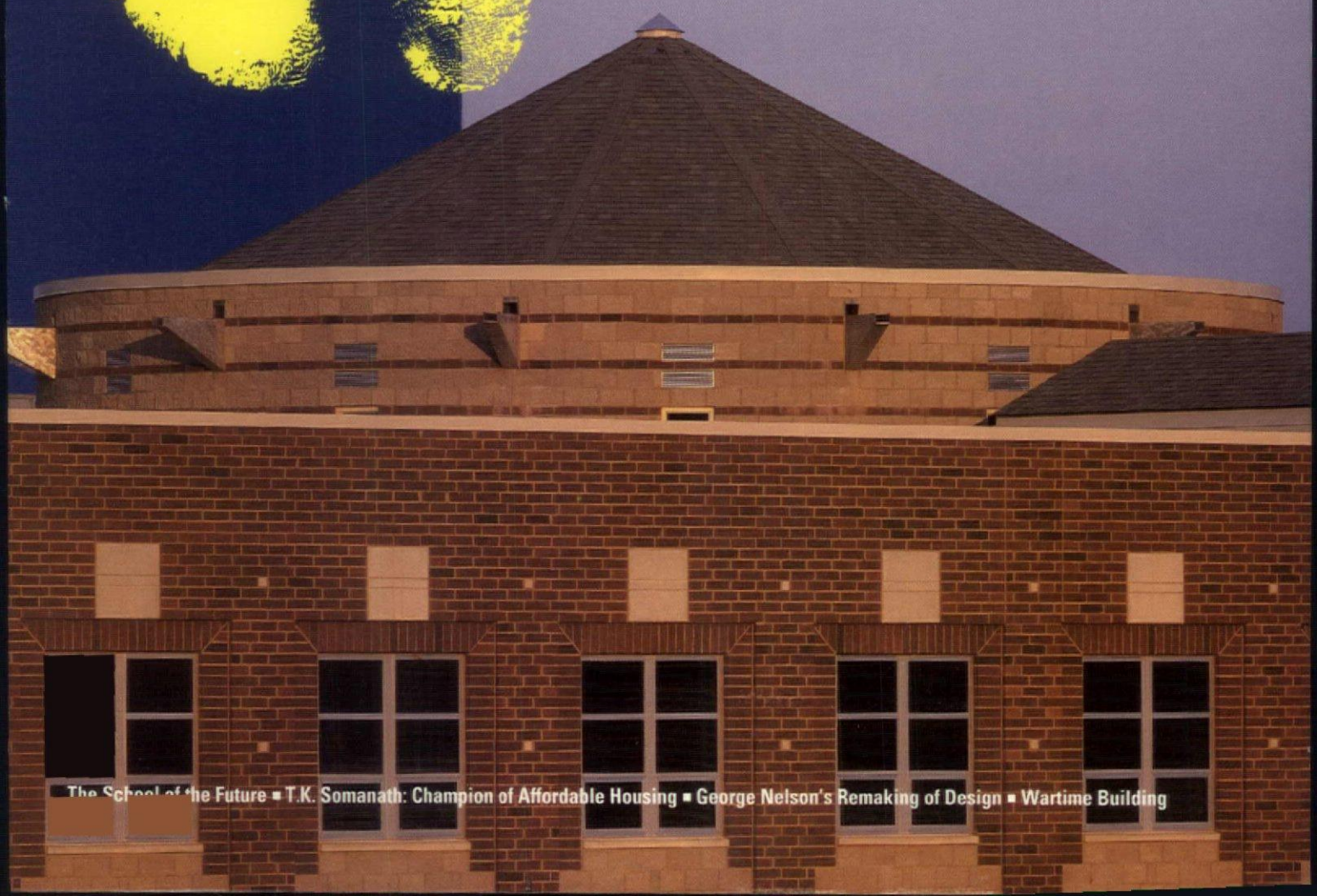


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² National Weather Service Data

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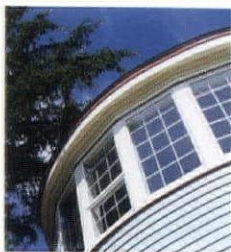


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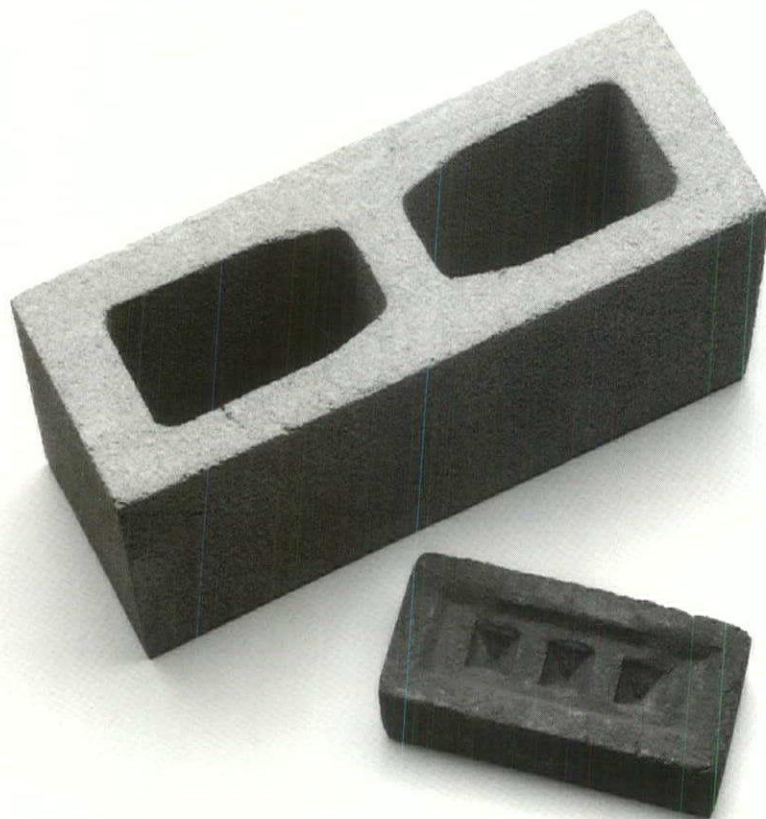
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volume five number four

12

Designing the School of the Future

Goodbye homerooms. Hello media centers. Widespread changes in technology and social makeup are causing a shift from narrow departmentalization to more interdisciplinary approaches to education. The implications for future school designs are significant.

Introduction by Deborah Marquardt.

Project profiles by Elena Marcheso Moreno.

Crozet Elementary School

VMDO Architects

Toano Middle School

Motley + Associates

Amelia County Elementary School

Bond Comet Westmoreland + Hiner

Short Pump Middle School

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Strawbridge Elementary School

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T.K. Somanath: champion of affordable housing



p. 24

On the cover:

Crozet Elementary School, by VMDO Architects.

Photo by Prakash Patel.

The Great Leap from War to Prosperity

Few question the economic benefits of war, despite its great human toll. The demand for materials and supplies creates jobs in manufacturing. Government sinks huge sums of money into gearing up the industrial machine. A population rallies to new heights of productivity. And industry scrambles to develop new technologies. Strangely, in the process, things get better for the little guy.

That, in a nutshell, is the theme that underlies a new exhibition at the National Building Museum titled "World War II and The American Dream: How Wartime Building Changed a Nation." Its exploration of topics from quick-fix housing to the advent of Saran Wrap document such an array of societal changes as to constitute an argument for seeing World War II as *the* defining event in 20th century American culture – or at least 20th century commerce. Historian Lewis Mumford may have said it best when he observed, "War is the health of the machine."

While the exhibition includes predictable artifacts such as the ubiquitous Quonset hut and oft-seen photographs of female workers wielding

rivet guns, the organizers cast a wide net to show how wartime building influenced the housing patterns and construction methods of post-war suburbia and to demonstrate how the urgency of war accelerated both technological development and social change. As guest curator Donald Albrecht notes in his introduction to the forthcoming catalog, the war forged strong relationships among the military, scientific, and academic communities. "Corporate laboratories and individual inventors struggled to develop new materials and techniques such as Styrofoam, Saran, and molded plywood, and the productive capacity of existing materials like fiberglass, aluminum, and acrylic sheeting rose dramatically," writes Albrecht. "In those pre-environmentally-conscious days, every new synthetic garnered praise and enthusiastic acceptance."

It was an era of innocence for Americans and, once Congress had committed us to war, the narcotic effect of an optimistic media only fed the public impression that no obstacle was too great to overcome. The result was an unprecedented rise in war-related building construction and industrial production. In the end, an effort of this magnitude effected enormous changes – many of which are still felt today. The exhibit does an admirable job of chronicling the breadth of Yankee ingenuity and outlining the transformation of American life through the war years and beyond. Among the highlights:



Acrylics were molded into complex shapes such as a bomber nose cone (top). Melamine dinnerware (above) grew out of wartime advances in the plastics industry.

■ In 1941, architects working for the Navy developed the Quonset hut, a metal mass-produced building that could be adapted for barracks, hospitals, chapels, or any of 100 other uses. By 1945, more than 170,000 huts had been shipped around the globe.

■ President Roosevelt's demand for new military aircraft forced factories to operate around the clock, and some new plants were built without windows so that night shifts could operate without revealing factory locations to enemy reconnaissance units. As a result, fluorescent lighting, used sparsely in the 1930s, won widespread acceptance for its efficient 24-hour-a-day performance.

■ The most imaginative wartime construction projects involved camouflage schemes created to protect defense facilities from air attack. In some cases, entire war plants were covered with canvas houses, fake trees, and camouflage netting to make them look like suburbs.

■ Leading Modern architects such as Frank Lloyd Wright, Walter Gropius, and Richard Neutra were commissioned to design defense housing. Their projects were among the first in America to employ design elements innovated in Europe – flat roofs, large windows, and site plans that harmonized with the landscape.

■ The movement of more than 15 million Americans to war production centers was the greatest internal migration in U.S. history. Between 1940 and 1944, more than 500,000 people moved to Los Angeles, many to work in new aircraft plants on the city's outskirts. Developers built housing projects near these plants, hastening the decentralization of L.A. and leading to the advent of suburban shopping centers.

■ Previously known for building large custom houses for affluent clients, the largest private residential builder in the east – Levitt and Sons – gained experience in the 1940s constructing low-cost defense housing at Oakdale Farms in Norfolk. Lessons learned in Virginia were applied to the better-known Levittown communities in New York and Pennsylvania after the war.



Experience gained by Levitt and Sons building low-cost defense housing in Norfolk was turned into a handsome profit after the war with a series of repetitive houses at Levittown in New York (above).

■ Wartime designs for molded plywood stretchers and leg splints developed for the Navy by Charles and Ray Eames were the precursors of plywood chairs, tables, and screens introduced to the consumer market in 1946.

Underscoring the pervasiveness of advances made during the war is the final section of the exhibition, which covers the adaptation of wartime production capabilities to peacetime needs. Consumer items such as melamine dinnerware, Styrofoam building insulation, aluminum siding, Tupperware, and frozen foods (encouraged by a shortage of metal for cans during the war and made more practical by improvements in freezer units immediately afterward) all have come to be associated with the Eisenhower years of middle-class prosperity, yet each had its roots in wartime technologies. Such new household goods were the payoff for American consumers, who had sacrificed during the war with the explicit promise from manufacturers that peace would bring a better way of life.

Little wonder, then, that the exhibition's narrative turns pointedly back on the viewer with a provocative question spread in large type across the gallery's end wall. Excerpted from Robert R. Nathan's *Mobilizing for Abundance*, the parting shot reads: "If we can build vast quantities of battleships, airplanes, guns, ammunition, tanks, and other weapons to kill our enemy, can we not devote the same resources after the war to building houses, automobiles, electrical devices, schools, hospitals, and other goods so much needed to raise the standard of living of all our people?" Every show needs a zinger like that.

— Vernon Mays

"World War II and the American Dream: How Wartime Building Changed a Nation" continues through 1995 at the National Building Museum, 401 F St. NW, Washington, D.C. For more information, call 202-272-2448.

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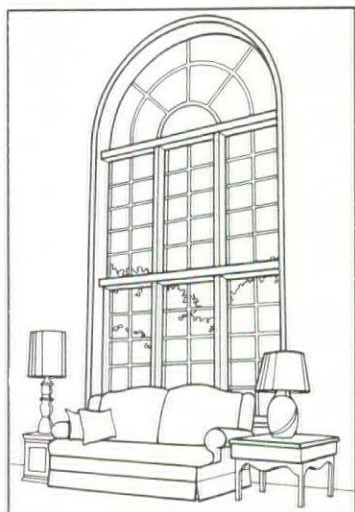
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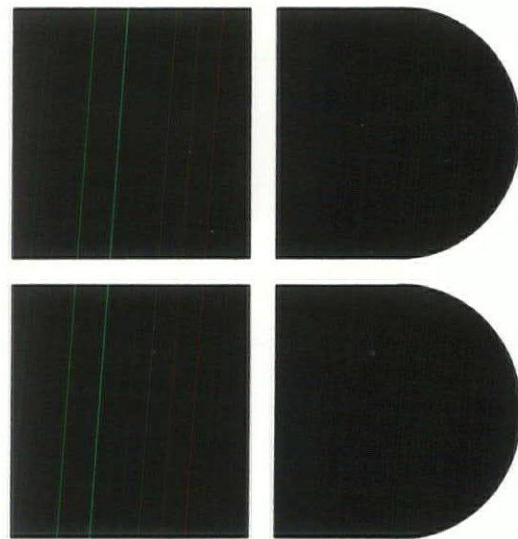
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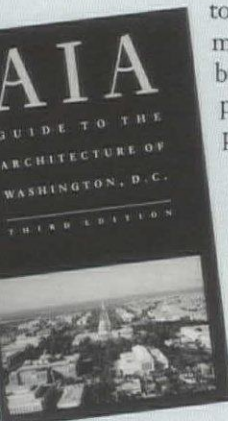
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D.C. Architecture Guidebook Reissued

City watchers, take note. A new edition of the *ALA Guide to the Architecture of Washington, DC* has just been published – the first update of the guide in 20 years. More than 400 of the capital city's most notable structures such as the Washington Monument, FBI headquarters, and Mayflower Hotel are listed with commentaries and updated photographs, including more than 100 buildings built since publication of the previous edition.



Intended as a resource for tourist and resident alike, the text is divided into 17 manageable tours, each featuring a

handy map for quick orientation. The tours include well-known, identifiable neighborhoods such as Capitol Hill, Dupont Circle, and Georgetown, as well as key areas of the city's monumental core, including the Mall, Federal Triangle, and Pennsylvania Avenue-Downtown. The guide reaches across the Potomac to incorporate a tour of Arlington National Cemetery.

Architectural historian Christopher Weeks's text is written to be accessible to the layperson while containing information enough for design and construction professionals. The text is accompanied by photographs of Alan Karchmer's, whose work appears frequently in national architecture magazines. The introduction was revised by Washington architect Francis D. Lethbridge, who worked on the previous edition of the guide.

The *ALA Guide to the Architecture of Washington, DC* was published by the Washington Chapter of the American Institute of Architects in cooperation with the Johns Hopkins University Press. The retail price is \$19.95 in paperback and \$39.95 for the hardcover version. The book is available from Washington-area bookstores or may be purchased directly from the publishers. To order, call AIA Washington at 202-667-1798.

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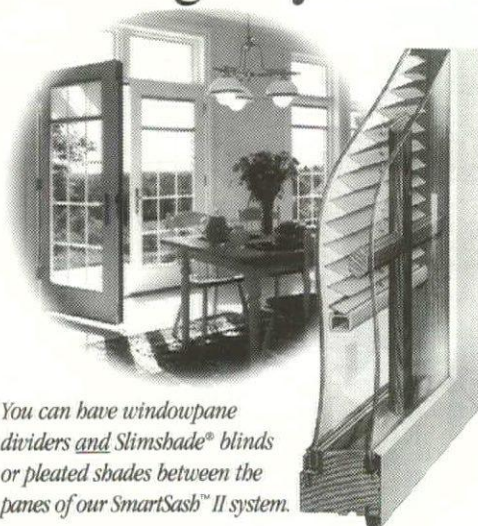
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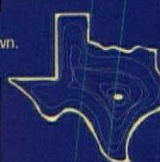
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■ "World War II and the American Dream." War-driven cooperation and inventiveness on the part of government, industry, architects, and builders generated structures and products that transformed a country. At the National Building Museum, Washington, D.C., through 1995. 202-272-2448.

■ "Frank Lloyd Wright: Architect for America." An exhibit of models, drawings, furniture, and photographs explores Wright's theories of "organic architecture." Through March 6 at the William King Regional Arts Center, Abingdon. Future showings in Portsmouth, Farmville, and Roanoke. 703-628-4000.

■ "Thomas Jefferson's Academical Village." Original drawings for the University of Virginia placed in context by later views of the university, architectural books that Jefferson consulted, archival letters, and recent photos. Feb. 1-April 16 at The Octagon, Washington, D.C. 202-638-3221.

■ "Making It in the Birmingham District." Through a series of recent photographs, the Historic American Engineering Record examines how industrial development influenced the development of Birmingham, Alabama. Through June 4 at the National Building Museum. 202-272-2448.

■ Landscape architect Martha Schwartz presents the Miles Thayer Lecture in Campbell Hall, University of Virginia, Charlottesville. Feb. 15 at 5:30 p.m. 804-924-3715.

■ The Decorative Arts Gallery of the Virginia Museum of Fine Arts reopens with an installation emphasizing naturalism, neoclassicism, and the Arts and Crafts movement. Highlights range from a Paul Revere silver teapot to blown-glass Tiffany canister. 804-367-0844.

■ "Visions of Home." Washington architects showcase solutions to housing issues such as availability, affordability, family size, and location. Through Feb. 26 at the National Building Museum. 202-272-2448.


■ "The Best of Contemporary Architecture." Hugh Newell Jacobsen and Edward Larrabee Barnes discuss their work in two programs at the Corcoran Gallery, Washington, D.C. Jacobsen appears on Jan. 19 and Barnes on Feb. 1, both at 7:30 p.m. Fee. 202-347-3601.

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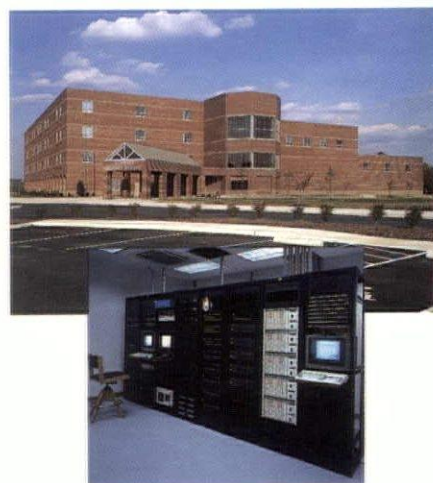
By Deborah Marquardt

Goodbye homeroom, chalk boards, school desks, and summer vacation. Hello media centers, informational concourses, interdisciplinary learning clusters, and year-round school years. Welcome to the brave new world of education, where conventional classrooms, linear hallways, and neat rows of desks seem about as outmoded as the one-room schoolhouse. From all indications, the way teachers teach and children learn in years to come will represent not just a change, but a revolution, a major upheaval in which architecture should play a vital role. It may be one of the most challenging and socially critical opportunities today.

The role of technology is a major factor in the evolution of schools, but there are others: the globalization of the marketplace; high-level skills required in a new workplace; and a population composed of many more

minority groups. Turning out critical thinkers, decision-makers, and communicators is causing a shift from subject-driven departmentalization – the mainstay of education for the past century – to more interdisciplinary approaches. These are new educational methods that don't fit easily into the shoebox schools that were state-of-the-art 40 years ago.

Even the nature of the student is changing. "Children come to us knowing how to go on the NET [Internet], use cellular phones, and program VCRs. And we think we're going to entertain them with chalk boards? I don't think so," says Jean Hammond, director of libraries at Norfolk Academy in Norfolk. She is anxiously awaiting the fall 1995 completion of the Batten Library, a high-tech mecca designed by Hanbury Evans Newill Vlattas of Norfolk. The infrastructure for all telephone, computer, and media systems on campus will be headquartered in the new building.



Each classroom at Ruffner Middle School in Norfolk (above) is networked for access to a media control center (inset) from which teachers can retrieve interactive video, laserdiscs, audio, electronic still photography, and satellite broadcasts. Architects for the school are Rancorn Wildman Krause Brezinski.



Even in traditional classrooms, such as at Keene Mill School in Springfield, computers have become a constant fixture. State officials are collaborating with architects to chart a course for education that, in time, will affect these students. Keene Mill's architects are Sheridan Behm Eustice & Associates.

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The recipe for the school of the future includes other interesting ingredients. Taxpayers, for example, are demanding more from schools, and communities with limited resources are looking for ways to make the buildings work harder – all day, all night, all year. Rural areas, which often make do with more limited resources, have different needs from urban areas. Some, such as Brunswick County, are taking advantage of computers and “distance learning” opportunities to make up for critical teacher shortages.

All of these factors have school districts and architects puzzled about how to proceed, because the full-baked school of the future has not yet emerged from the test kitchen. Nobody knows how much of each ingredient to use. Architect James DePasquale, of The DePasquale/Gentilhomme Group in Richmond, envisions “instructional concourses” with resource kiosks (taking the place of traditional corridors) and

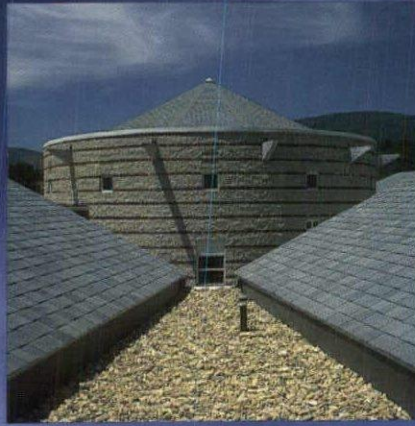
“pocket spaces” for intimate instruction, such as a mini-amphitheater tucked under a staircase. Greg Brezinski, of Rancorn Wildman Krause Brezinski in Newport News, imagines radical community partnerships in future schools. “Somehow we need to look at schools more as office buildings or shopping centers,” he says. This would allow a school system to buy or lease academic space and the community to lease community space, much like office buildings are leased today. Ben Motley, of Motley & Associates in Roanoke, asks: “What’s the architecture of the future? Is the 25-student classroom still the thing? Nobody really knows. What’s hype and what’s reality?”

One thing’s for sure. Technology already has changed things. “Today, the use of technology in schools should not even be questioned,” writes William S. DeJong and Tracy A. Vezdos, national educational planners and consultants. “The neces-

sary infrastructure [i.e. cable trays, conduit, electrical systems] should be installed even if nothing else is done.”

To assist school districts sort out thoughts and ideas, R. Wesley Batten, director of instructional media and technology for the Virginia Department of Education, and DePasquale organized a summit last spring called “Architectural Renaissance: Designing the 21st Century Learning Environment.” School superintendents, parents, teachers, students, and community leaders were teamed with architects and engineers in charrette teams to brainstorm ideas for the school of the future. The charrette is a familiar concept to architects, but not to others. It was a way to teach school representatives how to talk to other people about their needs,” says Batten. “In this electronic age, it is important to bring many segments of the community together before laying bricks and mortar.” The summit

(continued on page 22)



Rural Retreat

Crozet Elementary School
VMDO Architects, Charlottesville

Formed like a village of small houses joined together in a semi-circle, Crozet Elementary School grew out of a unique concept that highlights the image of the one-room schoolhouse. Yet the classic image of "school" presented on the front facade is conservative enough to be embraced by its rural community. That dichotomy was intentional, says architect Robert Moje, principal of VMDO Architects in Charlottesville. "Education by its very nature is liberating as children learn through discovery, but it must also be confining through necessary instruction," says Moje. The design theme unites these conflicts through a central tower and wings added to the administrative portion of the school.

The building, cut into the Blue Ridge foothills, steps down a knoll from the entry level to a lower floor and courtyard. Common spaces such as the auditorium and gym are expressed as separate shapes in concrete block and brick. Instructional areas are identified as two-level "houses of learning" clad in corrugated-metal siding. The radial pattern of the wedge-shaped classrooms emanates from the library tower, which serves as the symbolic center of knowledge. Three kindergarten classes are located in flexible space beneath the library. Rather than adhere strictly to the one-room school theme, VMDO created kindergarten space that contains, but doesn't confine, the children in an open area where they can easily regroup for team activities.

Although Crozet is on the leading edge of school design, it contains clear references to a historical past. The concept of a lawn focused on a central library is borrowed from the University of Virginia, says Moje. That planning strategy reinforces a sense of place and fosters pride in the accomplishments of Virginians. Furthermore, the barnlike gable-roofed classrooms recall the community's agrarian past. Principal Steve Braintwain, who arrived shortly before the school was occupied, attests to the facility's success. "Overall, I couldn't be happier with the conceptual design," he says. By recalling the ideal of the schoolhouse as an important town structure, and elevating that ideal symbolically, this facility reinforces the importance of education while creating a new source of civic pride.

— Elena Marcheso Moreno

The author is a freelance writer in McLean.



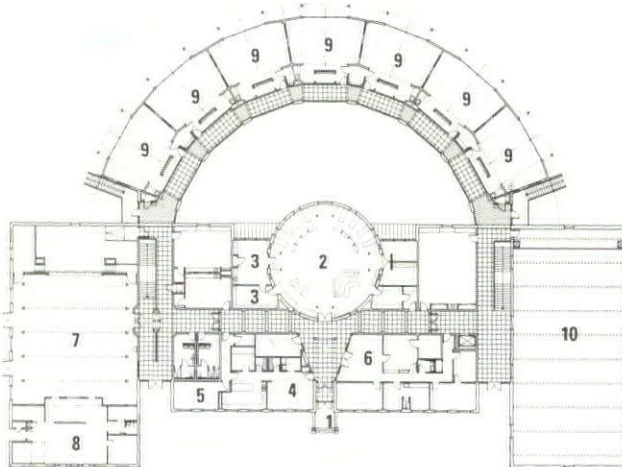
Seen from the rear, Crozet Elementary rests comfortably in the landscape.

Upper Floor Plan

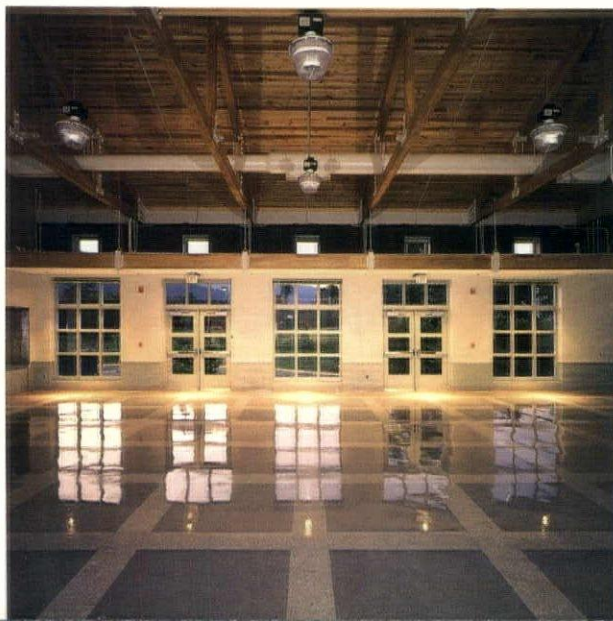
- 1 Entrance
- 2 Library
- 3 Special Ed.
- 4 Lounge
- 5 Counseling
- 6 Administration
- 7 Cafetorium
- 8 Kitchen
- 9 Classroom
- 10 Open to Gym Below

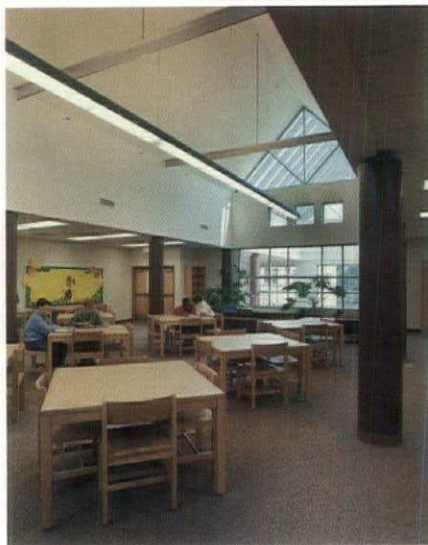


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Geometric design themes from the exterior are continued inside the cafeteria/auditorium (right). The school's cylindrical library (facing page and inset) is the focal point for an exterior courtyard and serves as the symbolic center of knowledge.





A glass wall at the end of the library/media center (above) overlooks a two-story lobby located inside the student entrance (right).



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Dependable Type

Toano Middle School

Motley + Associates, Roanoke

This school is an example of a new generation of prototype design that has been evolving across the state in recent years. As built here, the prototype balances the Williamsburg community's need for cloistered learning centers for students in grades six through eight with the demands imposed by ever-advancing technologies and limited government budgets.

Tapping into their recent experience designing middle schools, Motley + Associates of Roanoke organized the building into partially-contained "instructional pods" where children of the same grade attend classes with and circulate among their peers. While a program this repetitive could result in an overwhelming structure, the architects avoided that problem by breaking the building mass into manageable pieces. Serving 800 students, the

school is subdivided into four building elements, with three large volumes linked to a smaller core. By stepping back walls in each of the two-story portions of the school, the architects reduced its scale and made the school a more integral part of its neighborhood.

Although the character of the building recalls the region's historical architecture through its use of traditional masonry, there was no attempt to mimic Colonial styles. Triple glass pyramids at the front, gabled roof forms elsewhere, and large windows help to humanize the building. What results is a functional modern school that turns a sympathetic face toward its surrounding community.

Inside, to foster the movement of students as a group through the building to the gymnasium, cafeteria, auditorium, or

other areas, instructional pods were organized around a student lobby. Administrative offices are located adjacent to the student entrance, with a glass wall in the principal's office that overlooks the central stair – both to provide security and to imply accessibility. Located on the upper level of this compact core is a media center. With its vaulted ceiling and large skylight, this is perhaps the most inviting area of the building. The floor plan for Toano is an off-shoot of an earlier prototype designed by Motley for the City of Newport News, says project designer Kevin Deck. That middle school was broken down into three self-contained mini-schools which met the needs of that client. "But we don't look at prototypes as fixed," says Deck. "The prototypes we develop give us a starting point and a framework. Then we move forward from there."

– E.M.M.

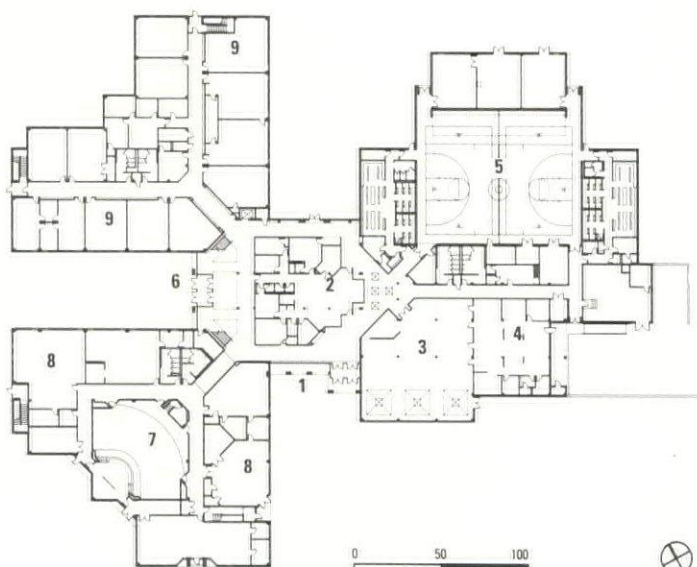


A trio of glass pyramids caps the roof of the dining hall, which thrusts forward adjacent to the school's public entrance (above).

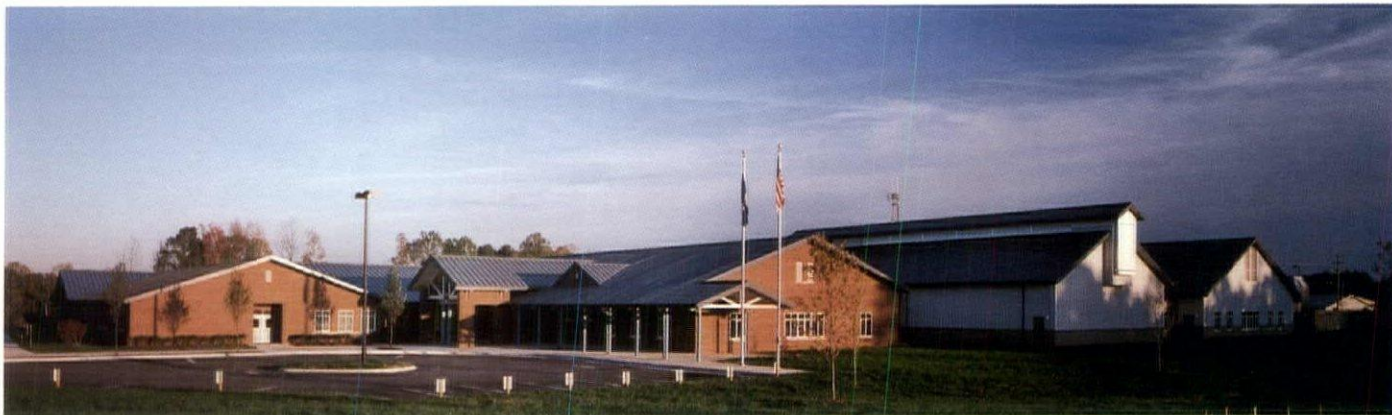
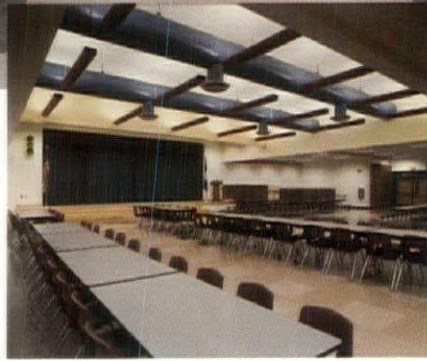
17

First Floor Plan

- | | |
|-------------------|---------------------|
| 1 Public Entrance | 6 Student Entrance |
| 2 Administration | 7 Auditorium |
| 3 Dining Hall | 8 Related Arts Wing |
| 4 Kitchen | 9 Eighth Grade Wing |
| 5 Gymnasium | |



View from the dining hall entrance looks toward the glass-enclosed administration reception area.



The sprawling school has the purposeful feel of a farm complex (above). Inside, the "main street" (top) connects academic neighborhoods and leads to shared spaces such as the cafetorium (inset).

Country Casual

Amelia County Elementary School
Bond Comet Westmoreland + Hiner, Richmond

Simple forms and straightforward materials were left unadorned to lend a small-town image to this expansive elementary school. Intended as the only primary school in Amelia County, this 1,000-student school reinforces a sense of civic pride and responsibility among residents who salute its appearance as "uniquely Amelia."

Designed to look like a series of connected farm buildings distinguished from one another by different materials and colors, the school reflects traditions found in local agricultural, residential, and civic buildings. The larger central segments are covered with metal siding and flanked by brick structures. Gable and shed roofs found throughout the immediate region are used here, as are roof monitors and clerestory windows that bring natural light into much of the interior.

With so many students to accommodate, efficient circulation patterns were a necessity. The architects separated the classroom area into two academic neighborhoods that each adjoin an administrative core. Access to the core from both the primary and upper elementary neighborhoods opens directly to a central hall that takes the form of a "main street." The gymnasium, cafetorium, offices, and other learning areas are located along this corridor.

Similar in many aspects to a pedestrian corridor of a large city, the main street is the school's most active place. Buses pull up to load and unload children at one end. The youngest children are easily shepherd into nearby classrooms, while the older ones continue past storefront windows and recessed entries at each of the accessory spaces, until they turn down the hall leading to their own classrooms. To reinforce the town center idea, the architects varied spaces at intervals along the street. Raised flat ceilings mark the vestibules outside the two classroom pods, while corridors outside the gymnasium and library are marked by vaulted ceilings. Colorful ductwork and pendant lighting add interest to ceilings in the cafetorium and library. Overall, the school's subdued design was purposely not based on trendy prototypes, but rather on the clients' demand for a school that looked like it belonged to them. —E.M.M.



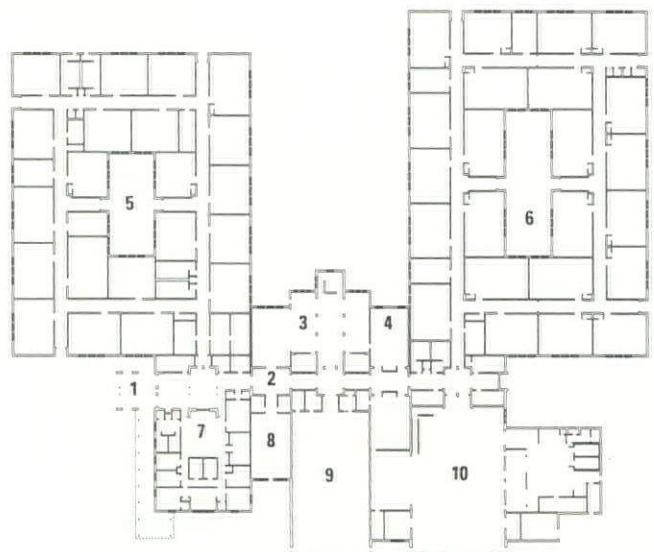
Though they fully equipped the school with state-of-the-art voice and data capabilities, the architects didn't fail to include "people places" like this cozy reading nook.

Photos: James Adcock

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Floor Plan

- 1 Entrance
- 2 Main Street
- 3 Media Center
- 4 Computer Lab
- 5 Grades 3-5
- 6 Grades K-2
- 7 Administration
- 8 Art
- 9 Gymnasium
- 10 Cafetorium



0 50 100

Double Duty

Short Pump Middle School

Ballou, Justice & Upton, Richmond

The design for this 1,425-student school in Henrico County accommodates the needs of the middle school while providing a place of assembly for the community. Characterized by long, rectilinear geometry, the half-mile-long site is bordered by undeveloped open and wooded areas. The school divides the site into two large greens – one in front and one behind. The public front yard welcomes staff and visitors into the main entrance, while the rear yard features a delicately scaled amphitheater and bus shelters. The school's prominent barnlike metal roof and its attached structures, assembled like outbuildings, draw their inspiration from agricultural roots.

Inside, the common-use spaces are located for easy access from the courtyards. The auditorium, library, gymnasium, and cafeteria/commons are housed in one structure. Classroom spaces are divided between two adjacent pavilions. All these functions are organized in pinwheel fashion around centrally located support spaces. Each floor of the academic wings is dedicated to a particular grade, with a "pod" design that allows the option of team teaching. The division between common-use and classroom areas enhances the building's functionality for community use and other after-hours functions. By configuring the school into discrete parts, most parts of it can be secured while large spaces, such as the gymnasium or auditorium, remain open. This flexibility provides the community with additional places of assembly without compromising the functional needs of a place of education.

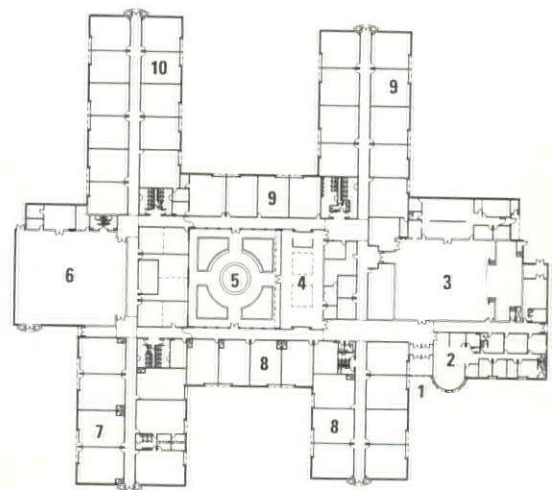
– V.M.



Classroom pavilions are organized in pinwheel fashion around a central building (above), while the gymnasium, auditorium, library (top), and other common spaces occupy a repetitive structure.



The school features an open courtyard with benches and brick planters.



- Floor Plan**
- 1 Entrance
 - 2 Administration
 - 3 Cafetorium
 - 4 Library
 - 5 Courtyard
 - 6 Gymnasium
 - 7 Kindergarten
 - 8 Grades 1-2
 - 9 Grades 3-4
 - 10 Grade 5



Center Court

Strawbridge Elementary School
The TAF Group, Virginia Beach

At the heart of Strawbridge Elementary School in Virginia Beach, an outdoor courtyard has been carved from the building mass with a very deliberate hand. Concentric circles and radial paths lead to four glass walls – the only separation between the paved and planted landscape and the school's main corridors. As students move back and forth to their classrooms from the gymnasium, library, or cafetorium, their path inevitably takes them past the courtyard. Each passage offers views and an open invitation to the outdoor space, as well as glimpses into the other hallways.

"This courtyard is not just a destination," notes project architect Michel Ashe, who set out to make it an integral part of the school for each child and teacher. Ashe, now

a principal with the TAF Group of Virginia Beach, designed the school while a partner of the now-defunct Walsh/Ashe Associates. From previous schools he had designed or analyzed, Ashe observed that courtyards tend to be dead-end spaces, either terminating a hallway or being attached in another



Ashe avoided the "dead end" syndrome by placing the courtyard where all could see it.

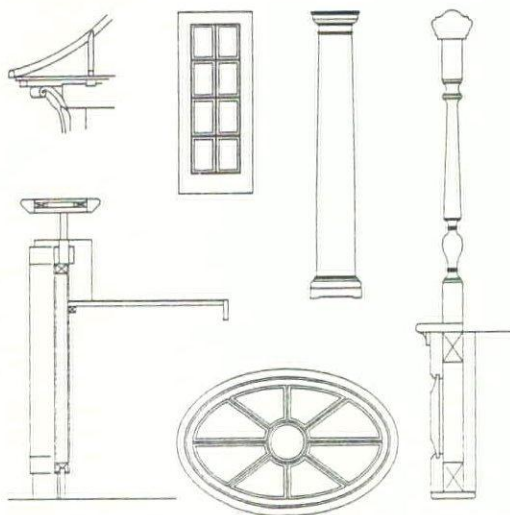
out-of-the-way place. His experience taught him that it took a teacher's concerted effort to bring students to these courtyards. But by surrounding the space with busy corridors and providing direct access from the library and learning center, its success was assured. Wood trellises, benches, and planters further contribute to its inviting character.

Beyond the courtyard, two classroom wings are connected by short hallways. The administration area is concentrated in one corner of the building, where a glazed semicircular bay draws attention to the main entrance. The single-story building is clad in red brick with white brick horizontal accents. All classrooms have views to the outside and clerestories in the public areas bring in abundant natural light.

– E.M.M.

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(continued from page 13)

sponsor, Virginia Quality Education in Sciences and Technology, or V-QUEST, plans to distribute a kit to each school district in Virginia demonstrating the effectiveness of the charrette process in action.

Nationally, trends common to all elementary, middle, and high school levels are emerging, says recognized school designer Michael Hall, of Celina, Ohio. Factors ranging from shifts in classroom size to changes in finish materials will affect the way architects approach design (see sidebar, page 23).

New schools in Virginia reflect such trends. For instance, Brezinski's firm recently completed Ruffner Middle School in Norfolk, in which each classroom is networked to a media control center, enabling teachers to access videotape, laser discs, audio, electronic still photography, and satellite lessons to enliven learning. The building also houses a community room accessible to the public. And two new Newport News high schools by the firm will facilitate an interdisciplinary curriculum by dividing the student body into academic "houses," which are more personal and encourage interaction among peers.

The Central Shenandoah Valley Governor's School for Math, Science and Technology, designed by The DePasquale/Gentilhomme Group, employs an interdisciplinary collaborative program, and the space reflects that instructional philosophy, says school director Linda Cauley. Located in a facility on the Valley Vocational Technical Center campus in Fishersville, the Governor's School barely resembles the masonry shop it once was. Inside the space, separate platforms constructed on 8-inch concrete slabs conceal laboratory plumbing and high-tech wiring, yet they function visually to subdivide spaces into intimate learning areas.

Kipps Elementary School in Blacksburg worked out a partnership between the town's Parks and Recreation Department and the school system to share recreational facilities such as ball fields, architect Motley reports. Even parks and recreation offices are located in the school. "The key is in having as much flexibility as possible when it comes to layouts of rooms and infrastructure for wireways," Motley says.

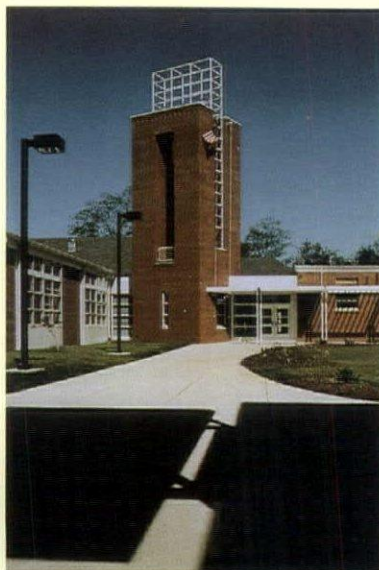
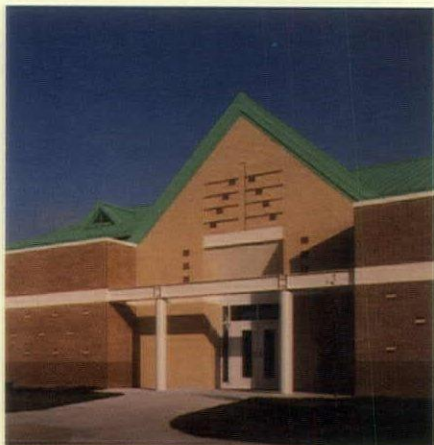
But can the design of a school positively affect the learning process? "The environment makes a difference in everything," says Governor's School director Cauley, who calls her school "energizing." Adds DePasquale, "It's not the walls that should be interesting, but what's inside the walls. Architecture should create an exciting space in which to learn."

Technology, in fact, has figuratively torn down the walls of the contemporary school. "We are not trapped by four walls. But the walls provide a structure to launch you into hyperspace," says educator Hammond. Brezinski adds: "The school must support the people. A school should instill in students a sense of pride. It is there because the students are important people." Admittedly, molding the school of the future will be no easy process. Robert Moje, of VMDO Architects in Charlottesville, says change can be painful. "There is no right answer. No blanket solutions. People have to review the choices and the implications of them."

Deborah Marquardt is a Norfolk freelance writer.

School Board Winners

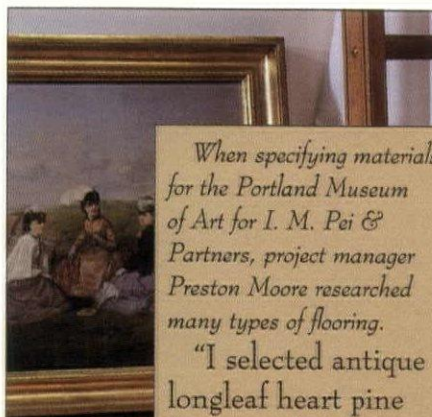
Three firms won statewide recognition in the recent Virginia School Boards Association's annual competition in school architecture, held in conjunction with the association's state convention in November. The winning entries were Southampton County High School (below right), by The Moseley McClintock Group, a Richmond firm; Kipps Elementary School (below left), by Motley + Associates, of Roanoke; and Boyce Elementary School (right), by VMDO Architects, of Charlottesville.



What to Look For in School Design

- ▼ Larger classrooms, up to 900 square feet, that lend themselves to cooperative learning groups.
- ▼ "Community friendly" buildings that allow shared recreational facilities, computer labs or libraries – even day care and adult learning.
- ▼ Classrooms connected to the world through fiber optics, cable, satellite dishes, and Internet.
- ▼ Zoned mechanical systems, allowing for heating or cooling of portions of schools to accommodate a longer school year.
- ▼ Spaces suited to teaching computer-aided drafting, laser technologies, and robotics rather than electric, wood, and machine shops.
- ▼ More noise-reducing carpet and erasable white boards in place of slate chalk boards, since chalk dust is deadly to computers.
- ▼ Sloped roofs to eliminate leaks and cut maintenance costs.

Source: Michael Hall, of Fanning Howey Associates Architects, Celina, Ohio.



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Rewriting the Definition of Design

George Nelson: The Design of Modern Design. By Stanley Abercrombie. 345 pp. Illustrated. Cambridge, Mass.: The MIT Press. \$55.00 cloth.

By Mark Alden Branch

George Nelson may be the most important Modernist you've never heard of. Trained as an architect, he hopped the borders between disciplines to help define Modern design in post-World War II America. Nelson influenced the design world not by contributing masterpieces to the Modern canon, but by promoting new ideas and unfailingly shaping up whatever institutions he took on.

Nelson, who lived from 1908 to 1986, regularly turned up among the movement's greats from the beginning of his career. While studying at the American Academy in Rome in the early 1930s, for example, he interviewed Le Corbusier, Mies van der Rohe, Walter Gropius, and nine other European Modernists for a series of profiles published in *Pencil Points*. Later, he won Frank Lloyd Wright's affection by championing Wright's work in *Architectural Forum* and *Fortune*, where Nelson was an editor. He also collaborated on various projects with Buckminster Fuller and Charles Eames, including the wildly successful American National Exhibition in Moscow, the 1959 event where Richard Nixon had his "kitchen debate" with Nikita Khrushchev.

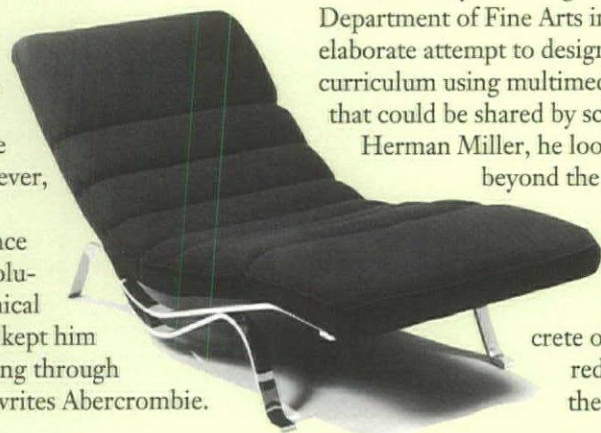
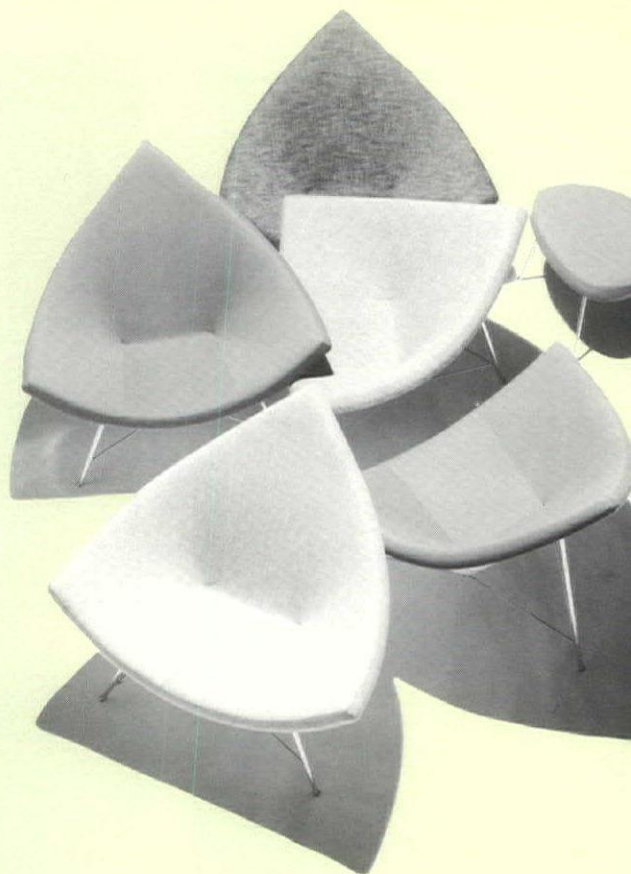
Both as journalist and practitioner, Nelson helped define industrial design as a profession. As director of design for furniture manufacturer Herman Miller, he promoted Modern designs for the home and, later, the open-plan office. But because Nelson never produced a familiar and cohesive body of work, his contributions have often gone unnoticed.

Nelson (above) with model of his 1957 experimental house. Both the Coconut chairs (right) and chaise (below) were produced by Herman Miller while Nelson was director of design there.

Stanley Abercrombie, the editor of *Interior Design* magazine, seeks to remedy that in *George Nelson: The Design of Modern Design*. In this sympathetic portrait of Nelson's work and philosophy, Abercrombie shows Nelson to be an original thinker with a voracious visual appetite.

Given his many accomplishments, why didn't Nelson become more famous as a designer? For one thing, he spread himself thin among disciplines. Apparently feeling constrained by defining terms such as "architect" or "furniture designer," he was unable to concentrate his energies single-mindedly. But such a description applies equally to his good friend Charles Eames, who still managed to turn out well-known and well-loved chairs, houses, and films. Unlike Eames, however, Nelson had an "impatience with the resolution of technical details" that kept him from following through on designs, writes Abercrombie.

Instead, the author argues, Nelson's greatest contribution was not in the design of specific buildings, products, or exhibitions, but in shaping the discipline of design itself—thus the book's rather clunky title. Nelson was an important presence at the Aspen Design Conference from its beginnings in 1951, and was a guiding force behind *Industrial Design* magazine. More importantly, he anticipated the diminishing relevance of architecture and other design professions in an age of technology, and promoted the idea that the design process is as applicable to systems as it is to tangible objects, an idea that is *au courant* in architectural circles today. Putting this idea into practice, he turned an invitation to lecture at the University of Georgia's Department of Fine Arts into an elaborate attempt to design a new curriculum using multimedia lectures that could be shared by schools. At Herman Miller, he looked well beyond the office furniture industry standard of discrete objects and redesigned the work-



place, unleashing the open-plan office – and its attendant work stations and cubicles – on the world. To his credit, Nelson railed against his own company's first panel system, which he had no part in designing, saying it was made for "corporate zombies, the walking dead." He advocated more user-friendly, less rigid arrangements within an open plan.

Nelson had a distaste for consumer culture that at first might seem surprising, given his role in creating objects for people to buy. But one of his goals, like those of some other Modernists, seemed to be to separate consumers from the fetishes that revolved around their possessions, turning furniture and even architecture into unromantic commodities. While working for Herman Miller, he dared to envision a showroom exhibit that, save for a couple of chairs and a table, was empty of furniture. Built-in shelves and cabinets took the place of most freestanding pieces, a prospect which didn't upset his boss, D.J. De Pree, because Herman Miller would make built-ins, too.

Nelson considered himself a humanist and his intentions were good, but he and his fellow Modernists were naive to think that consumers would give up their unhealthy attachment to material things if only such goods were made inhuman. Nonetheless, Nelson himself contributed some attractive, innovative products to the furniture and accessories markets, including the delightful Coconut chair (1955), a kind of triangular bowl on aluminum legs; the Sling Sofa (1963), an elegant Breueresque design of leather cushions on tubular steel; and the familiar ball clock (1950), a kind of asterisk that splendidly exemplifies the consumer Modernism of the 1950s. Nelson generated enough designs to prove his talent, but his aspirations were higher and more complex.

Abercrombie's approach to his elusive subject falls somewhere between a monograph and a biography. He includes diligent footnotes, but concentrates on Nelson's work to the exclusion of developing any

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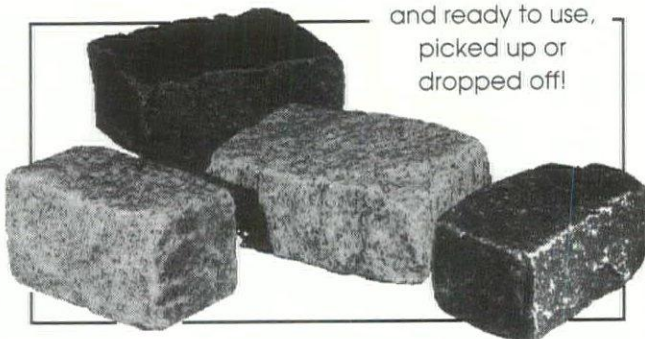
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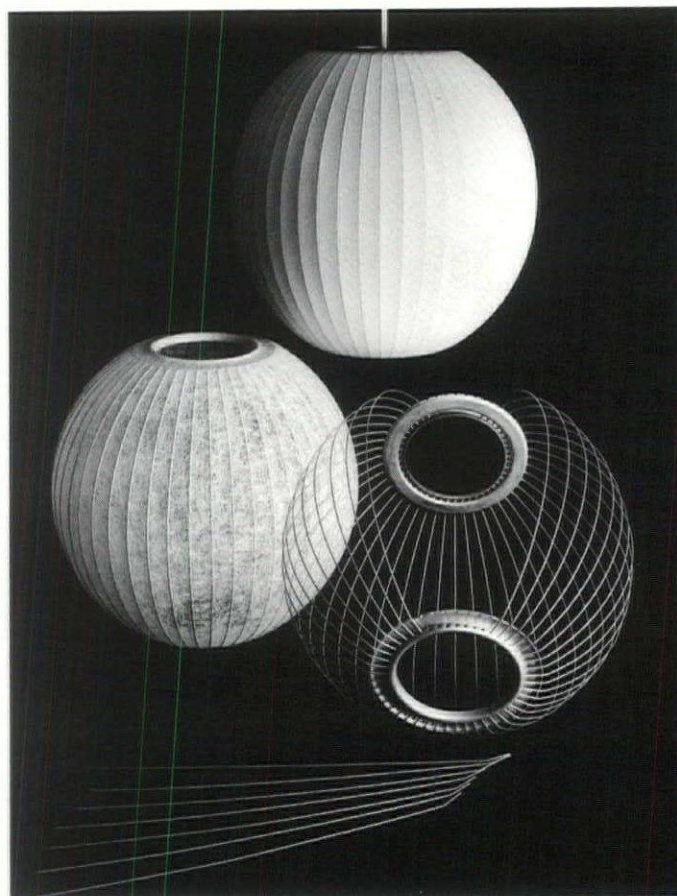
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understanding of the man. He has tried to impose an order on Nelson's scattershot career by organizing the book not chronologically, but in chapters devoted to different design problems – houses, furniture, education, the city, and the office – that Nelson tackled. But without the personal narrative of a full-scale biography, this strategy leaves us uncertain about who Nelson was and what motivated him.

As far as scholarship is concerned, one hopes that the single glaring error detected in the book is not the fault of the author, a former director of the Society of Architectural Historians. The text attributes the design of James Gamble Rogers's great Gothic quadrangles at Yale University, Nelson's alma mater, to "the firm of James, Gamble & Rogers." Shortcomings aside, this book is a welcome addition to the archives of Modernism. Scholars and browsers alike will appreciate the extensive appendices, including a chronology of Nelson's work and bibliographies of writings by and about him. But perhaps the book's greatest strength is the extensive quotation of Nelson's own writings, both published and unpublished. While the book is generous with illustrations of Nelson's architecture, furniture, graphic design, and exhibit design, Abercrombie wisely understood that Nelson's thoughts and words were his premier contributions.



Mark Alden Branch lives in McKinney, Texas, and writes about architecture for Progressive Architecture and the Dallas Observer. This is his first article for Inform.



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T.K. Somanath

The Champion of Affordable Housing

By Rob Walker

To those who know his work, T. K. Somanath is the man who engineered a dramatic and successful redirection of public housing projects in Richmond. That someone from so distant and different a world would become such a vital player in this city of longstanding tradition is a unique and most fortunate story.

Today, after almost two decades in city government working to improve public housing, Somanath is director of the Richmond Better Housing Coalition, a non-profit organization that helps community-based groups develop livable housing for low- and moderate-income residents. His imprint can be seen on some of Richmond's most troubled and challenging neighborhoods, from Randolph to Church Hill to Cary Street. There, due in large part to Somanath's imaginative approach, communities are coming back to life.

Mary Tyler McClenahan, chairman and founder of the housing coalition, says Somanath embodies "the rare combination of a strong, compassionate, and idealistic person who also possesses a great depth of knowledge about housing. And he has the greatest patience of any human being I have known. He deeply loves people and wants to provide them with a safe, comfortable home where they will be happy." McClenahan credits Somanath with changing the standards related to "affordable housing" in Richmond.

This story begins decades ago in the city of Mysore in southern India, where Somanath grew up. He earned a degree in civil engineering there and went to work building water systems and irrigation canals in poor rural regions. The idealistic young man's dream of helping the less fortunate grew in part from Somanath's fascination with President John F. Kennedy and the United States, which reached out to others through the Peace Corps. He thought of the United States as a place of tall build-



Somanath in the courtyard of the housing coalition's latest success story, Cary Mews (above). New houses in the Randolph neighborhood (right) were designed to repeat the familiar scale and detailing of original houses cleared by urban renewal.

ings and great bridges. He says he wanted to come here "to learn the structural world."

Somanath laughs today as he recounts how he and his young wife bought two plane tickets, scrounged up \$400 between them, and flew away to New York. They had few contacts, no jobs, and no firm prospects. It was 1971 and work was so scarce Somanath boarded a Greyhound bus headed south. When he hit Richmond, he was down to his last few dollars. He moved into the YMCA and eventually found work in the city's public housing office. "I was fascinated to learn that in a nation of plenty, there were people living here in such rundown housing. I saw places that were like the Third World," he says, confirming the view of a city political leader of the day who characterized Richmond's public housing stock as "cinderblocks of despair."

Somanath's first opportunity to alter the face of Richmond's public housing was in Randolph, a 76-acre urban neighborhood plagued by decay but with deep roots as a com-

munity. Much of its dilapidated housing was cleared during the urban renewal of the late 1960s. The new Downtown Expressway cut hard through the area. Plans for Randolph's redevelopment initially called for construction of typical subsidized apartments — concrete-and-block units organized around courtyards and surrounded by parking lots. But advocates of Randolph wanted to return to a community rebuilt to reflect neighborhood traditions, which were strong indeed. With Somanath pressing the public's concerns, the Randolph redevelopment dramatically changed direction.

Somanath brought in UDA Architects, a Pittsburgh firm with a reputation for developing public housing with genuine community involvement. Working with community leaders and studying nearby housing types, street patterns, and old photos of Randolph, UDA began designing houses with porches and yards along streets with sidewalks and trees. They planned parks with gazebos, and used a mixture of building materials to vary otherwise repetitive designs. Somanath "made a

courageous decision to stop the original plan and take another look," says Rob Robinson, a senior associate at UDA. "He decided to try to get the community involved and that's been his approach ever since."

In 1990, Mrs. McClenahan lured Somanath to the housing coalition, where he could apply his ideas more freely outside the stifling atmosphere of government bureaucracy. Somanath works from the bottom up. He



believes that when people living in a neighborhood have a stake in the community – home ownership being the strongest stake – they become involved in projects that gives the city its heart. "Government can't do it from the top down," Somanath says. "It's been trying for 40 years and there have been colossal failures. We're still living with them here."

Through the housing coalition, Somanath has made notable progress recently with the Cary 2000 project, which was begun in 1992 in a highly visible, severely blighted corridor that funnels into Richmond's downtown. He also is working with neighborhood groups in Church Hill to develop housing along Carrington Street, soon to be a revitalized boulevard that will link the neighborhood with historic Jackson Ward.

On Cary Street, the housing coalition is working with a rejuvenated civic association to provide funding and to rebuild and preserve housing without displacing long-term, low-income families. For 18 months, Somanath and the neighborhood association developed their strategy. They drew banks and private corporations into the project to help with financing. His overtures also attracted the local architectural and legal communities, who provided pro bono services. The over-

riding goal: to create possibilities for home ownership. Somanath likens his methods to old-time barn raisings, where everyone in a community pitched in to help the next family get up and running.

The first phase of the project opened in 1993. It includes 29 units ranging from town houses to garden apartments in new and renovated buildings. At the same time, plans are being developed for the revitalization of

other deteriorating properties in the area. Another 12 buildings are being renovated with monies from a variety of public and private sources. Old flats are being converted into town houses with small yards and porches, the kinds of private spaces Somanath sees as essential to urban living.

And the old structures are attracting attention. Neighbors want to know how to get involved. Gradually, the community is coming back to life. "It's like working with a worn Oriental fabric," Somanath says. "Take great care in stitching it back together when it seems worn out – and it will serve you well."

Rob Walker is a Richmond writer.



Plans for Church Hill in Richmond include street improvements and a small park.



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Project: Ettrick Park Community Building

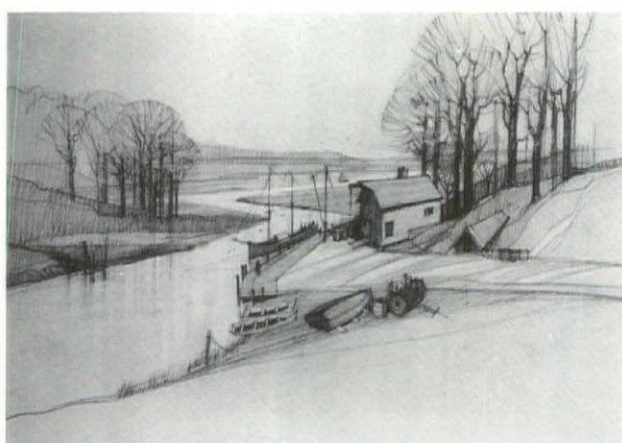
Seniors, youth and civic groups, and local citizens will use this new 5,000-square-foot community building in Chesterfield County. Designed in scale with the residential character of surrounding neighborhoods, the building houses meeting rooms, an arts and crafts room, and a game room. 804-788-4774.



Architect: Henningson, Durham & Richardson, Inc., Alexandria
Project: Biological Sciences Research Center, UNC-Chapel Hill

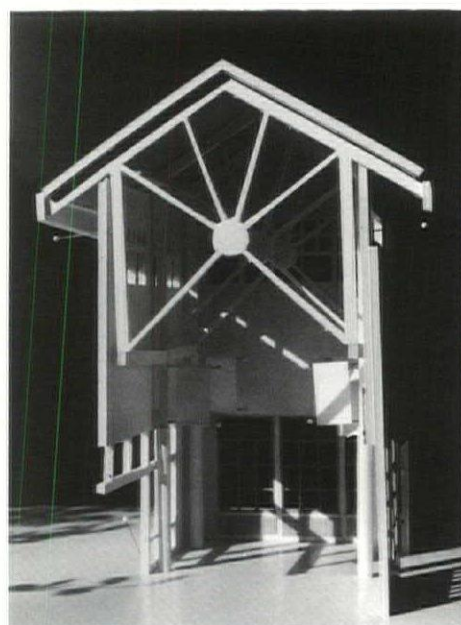
Designed as the focus building for the campus research quadrangle, this new 8-story, 100,000-square-foot research tower for the School of Medicine includes laboratories, offices, and administrative spaces. Project completion is scheduled for November 1997. 703-683-3400.

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Architect: Carlton Abbott & Partners, Williamsburg
Project: City of Williamsburg Open Space Plan

This drawing envisions the reconstruction of an 18th century landing on Queens Creek that would be connected by an interpretive trail to historic Williamsburg. This is one of many sites being studied for the open space plan. 804-220-1095.



Architect: William L. Laslett, AIA, Architect, Richmond
Project: Alterations and Additions to Culpeper Memorial Hospital

This Emergency Room addition provides a new image and new finish standards for the hospital, while separating the 24-hour emergency room and daytime ambulatory care entries. Alterations include new triage and registration areas and upgrading of air handling systems. 804-359-0969.



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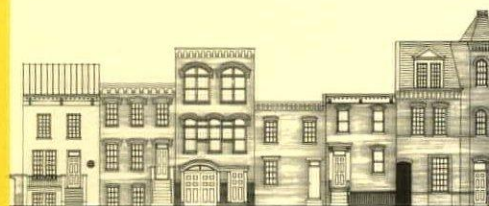
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inform

Coming Up

In our next issue, Inform will look at new solutions to an age-old problem – housing. Also we will visit a town that has vigilantly guarded its unique character and reflect on the creation of an architectural masterpiece.



Capitol Hill Row House
Robert M. Gurney, AIA

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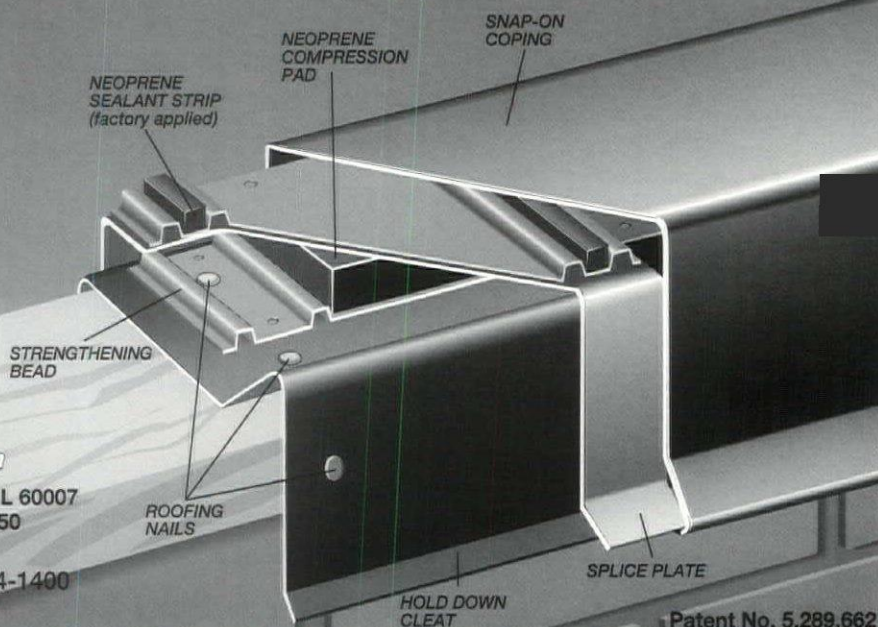


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