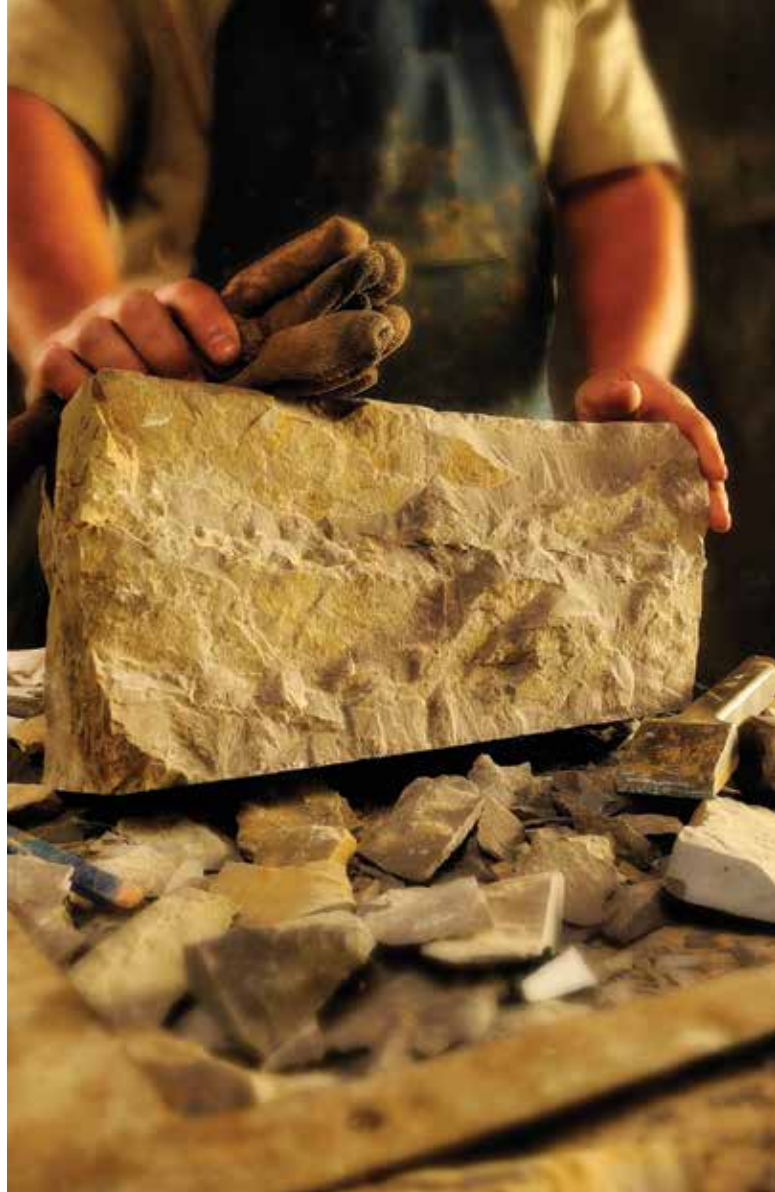




Prevailing through the ages

More than a century and the beginning of a new millennium have passed since Virginia Agricultural and Mechanical College first appeared on the Blacksburg horizon. Over the years, the school's name has changed, wars have started and ended, prosperity has risen and fallen, celebration and tragedy have left their marks. Through it all, Virginia Tech's heart and soul have prevailed; so, too, has its Hokie Stone.

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Hokie Stone

Virginia Tech's Stone of Tradition



“Virginia Tech is a product of Virginia soils and ingenuity from beginning to end.”

Dan Pezzoni '84, architectural historian

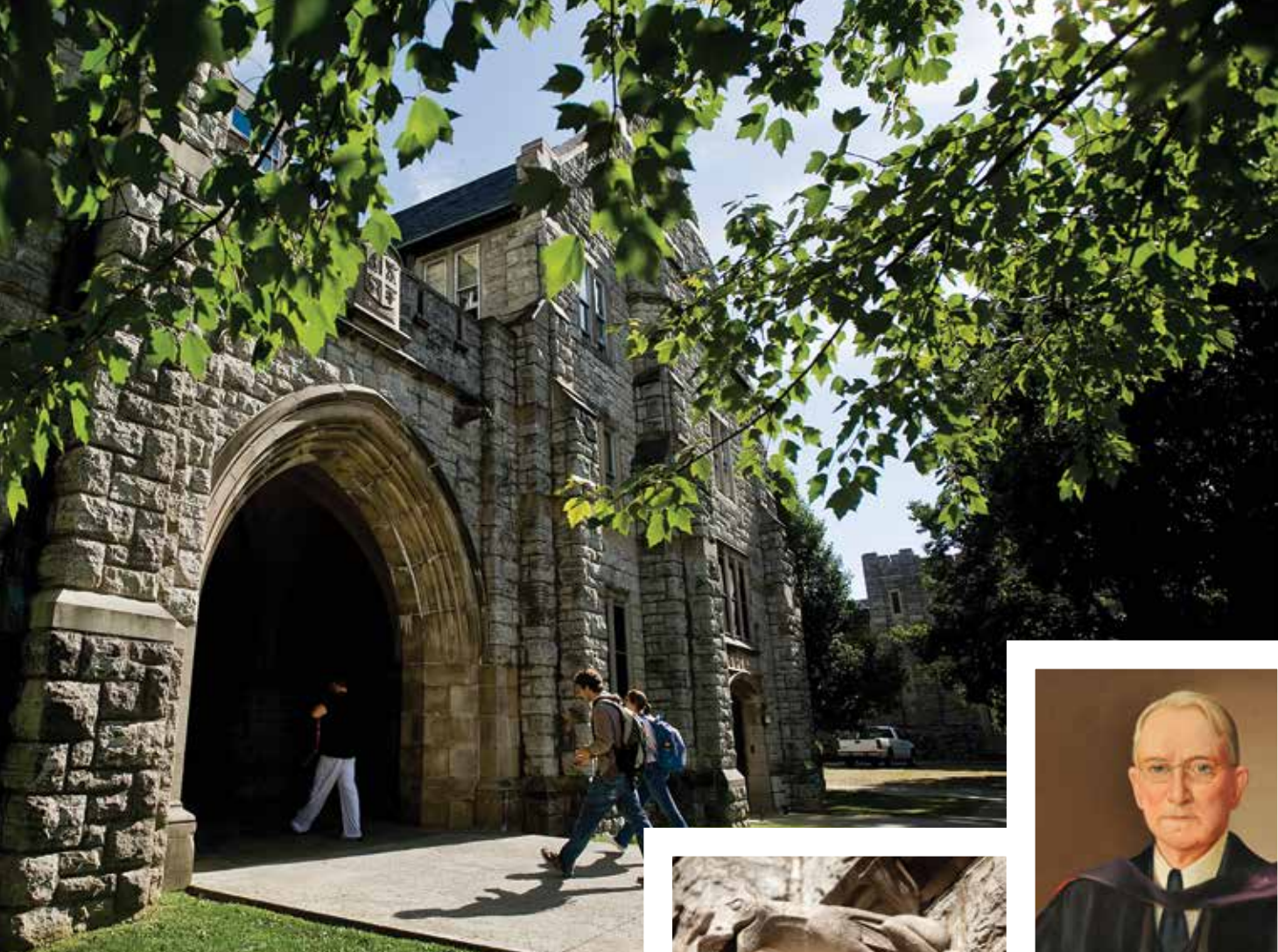


While Virginia Tech invents the future, it does not forget its past. Nowhere is this reverence for tradition more evident than in the vista of the campus. Surrounding the Drillfield at the center, numerous towering structures stand stately and strong, clad in the signature limestone that defines campus buildings.

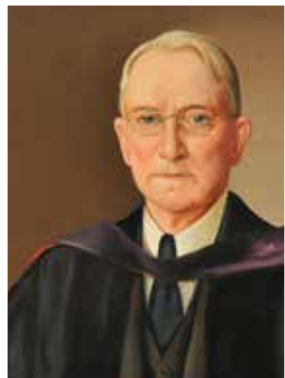
Virginia Tech was born as a land-grant college, and appropriately, its distinctive buildings have been constructed from the product of Southwest Virginia geology. The university mines the distinguishing limestone at its own quarry on the fringes of Blacksburg. Originally called “our native stone,” the rock has become known more familiarly — and more affectionately — as Hokie Stone.



Burruss Hall around 1940



Eggleston Hall (above) with closeup of one of its gargoyles (right)



President Joseph D. Eggleston

Projecting a venerable image

Strong-armed stonemasons lay the finished limestone blocks to form buildings designed in neo-Gothic architecture, specifically and more descriptively called Collegiate Gothic. Harkening back to such venerable British universities as Oxford and Cambridge, this building style was strategically selected for the image it projects.

The earliest campus buildings were made of brick and were detailed with Victorian characteristics. This look met with considerable and official disfavor. Tech's leaders in the late 19th and early 20th centuries were in consensus

that the campus buildings bore an unsettling resemblance to the cotton mills and shoe factories of the time. The university's fifth president, Joseph D. Eggleston (1913-1919), described his displeasure succinctly, referring to the original buildings as resembling "poverty-stricken mills." In an effort to combat the stereotype of Virginia Tech as a low-brow vocational school, Eggleston ensured that when it came to campus construction, bricks were out and limestone blocks were in.



The original McBryde Building of Mechanical Arts (top) combined Hokie Stone with the neo-Gothic architectural style. The newer McBryde (above) was completed in 1971.



President John M. McBryde

The marriage of neo-Gothic and Hokie Stone

The changeover to Hokie Stone came during the administration of President John M. McBryde (1891-1907). The first building using the native limestone was the campus YMCA, constructed in 1899. Richmond architect W.F. West designed this modest structure, known today as the Liberal Arts Building, in the Romanesque style.

Neo-Gothic architecture, however, did not make its debut until 1905 with the construction of the Chapel, which had been planned as a brick building. Faced with an unavailability of bricks, the builders turned to native limestone for the structure that served in its later days as the campus library. But the first building designed in neo-Gothic architecture and native limestone was the first McBryde Hall, constructed in 1914 and razed in 1966. Today, the sculptures from its façade can be seen along the walkway on the west end of the second McBryde Hall.

College campuses across the nation were adopting the neo-Gothic (or Gothic Revival) style of architecture in the early 20th century. Presidents McBryde and Eggleston approved this motif in order to visually underscore their desire for the still-young college in Blacksburg to be accepted as a full-fledged institution of higher learning.

One mason, one ton, one day

Virginia Tech's quarry operations produce some **50 tons of Hokie Stone per week**, or **about 2,500 tons per year**. A single ton of the stone will cover about 35 square feet on a building.

So what does this amount of stone look like? **Torgersen Hall**, which includes a stone bridge that spans Alumni Mall and connects the building **with Newman Library**, is composed of **about 2,700 tons of stone**.

To envision this mass of rock in human terms, **each mason can shape about a ton of stone a day**.

The process used to arrive at that point includes cutting, dressing, and packing the stone.

Quarry workers use black powder, a somewhat quieter excavation explosive, to blast Hokie Stone from its mother formation. The properties of this powder produce large, clean cuts of stone, thereby minimizing pulverization into wasted dust. Containing dust and noise is essential since the quarry is virtually surrounded by residential areas.

The **40-acre quarry**, which **employs about 15 people**, provides **80 percent of the stone** used in campus construction. To ensure variations in color, the university purchases the remaining 20 percent from a farm in Montgomery County, but Virginia Tech quarry employees process it.

Large chunks of stone are moved to an area for drilling, splitting, and sawing.

- First, big, irregular pieces are drilled along their natural seams.
- Then a cylindrical hydraulic splitting mechanism, which is inserted into the drilled holes, applies 300 tons of force to break the stones along the seams.
- Once split, the stone is placed in a bridge saw and converted into consistently sized building stone.
- These stones are then fed into a hydraulic breaker that fractures the rock with 300 tons of force.
- Finally, the Hokie Stone is placed on pallets and shrink-wrapped for delivery to the job site.



Torgersen Hall, which includes a stone bridge that spans Alumni Mall and connects the building with Newman Library, is composed of **about 2,700 tons** of stone.



Smart Road Bridge

Many sizes, many purposes

The use of Hokie Stone ranges from the towering to the tiny. The Smart Road Bridge over Wilson Creek, for example, soars as the state's highest bridge. Its supporting pillars contain Hokie Stone, adding a scenic quality to the bridge's engineering. In Northern Virginia, a Hokie Stone bench sits beside a Japanese maple tree as a symbol of hope in the wake of the April, 16, 2007, tragedy. On the main campus in Blacksburg, 32 blocks of Hokie Stone memorialize each victim of the tragedy. As for tiny uses of the dolomite, Hokie Stone is the focal point in various items of jewelry.



The Inn at Virginia Tech and Skelton Conference Center (above) and the Holtzman Alumni Center (right)

Eggleston officially ignited this dramatic change in the campus architecture, and his set-in-stone vision endured, except for a brief departure from the style in the late 1960s and early 1970s. The change followed a national trend, which had turned to modernism in architecture. Cassell Coliseum and Cowgill, Whittemore, and Derring halls are prominent examples of campus buildings of that time.

But in the 1990s a Board of Visitors committee expressed an intent that henceforth Hokie Stone should be used in all buildings constructed on the central campus, and in 2010 the entire board passed a resolution making that sentiment official policy.

Hokie Stone also features prominently in The Inn at Virginia Tech and Skelton Conference Center, an architectural showpiece built with 2,741 tons of stone. If you're counting, that's 82,236 individual blocks. A typical campus building uses about 1,500 tons of stone.



McComas Hall



An earth-shaking event

Hokie Stone is dolomite, a mineral found in the Appalachian Mountains and most prevalent in Virginia, Tennessee, and Alabama. A sedimentary rock, it formed from calcium and magnesium carbonate and occurs in muted shades of pink, red, gray, brown, and black.

In the timeline of geology, dolomite formed at the same time as fish, insects, and reptiles, making it somewhat of a geological newcomer. The formation of this limestone (technically known as Chepultepec and Kingsport dolomite) was an earth-shaking event. Continental drift forced the coastal planes of Africa and North America to collide, creating wrinkled layers of faults and folds. As these layers were pushed near the Earth's surface, they formed the stone that distinguishes Virginia Tech today.

Environmental changes caused the color variations of Hokie Stone. The older pinkish dolomites resulted from their formation during an era when the region faced an arid, desert-like climate that had a bleaching effect on the rocks. The darker gray and black colors come from a time of swampy and wetter conditions.



Virginia Tech quarry