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TEXT AND PHOTOGRAPHS **BY DAVID ANDREWS**

SALUTE TO GLASS AND STEEL

THE RISING SUN LIGHTS UP THE RAMPART RANGE, high on a mesa 10 miles out of Colorado Springs. Clouds billow over the ridges, like fingers emerging from the flanks. To the east, the undulating plains stretch to infinity. The mountains are so near you feel their grandeur, their shadows a soft caress as dusk closes in.

IT'S THE IDEAL PLACE FOR AN "AIR-AGE ACROPOLIS," as *Architectural Forum* called it. Here, "on a base scaled to rival the grandest pedestals of antiquity," young men trained to command satellite squadrons and rocket fleets, the weapons of the Cold War.

THE HEART OF THE COMPLEX—the cadet campus—hugs the hillsides, demurring to the magnificent landscape. At night, the low-slung rectilinear forms—clad in steel, aluminum, white marble, and above all glass—glow with soft incandescence.

FORGING A MONUMENT AT THE UNITED STATES AIR FORCE ACADEMY

Left: The cadet chapel. Effused the *New York Herald Tribune* on the academy plan's unveiling: "Just as West Point, with its medieval fortress-like appearance, symbolizes the traditions of land warfare, so does the sharplined and soaring Air Force Academy represent the newest and swiftest military science."

The sweeping horizontals, and the insistent presence of sky and space, do not so much suggest flight as evoke it, says Kristen Schaffer in *Modernism at Mid-Century: The Architecture of the United States Air Force Academy*. "The eye rushes along the façade . . . faster and faster eastward until the pavement falls away, while the eye continues, out over the parade ground below and, ultimately, off the end of the mesa and eastward into the distance . . . On sunny days the expanse is exhilarating; on windy, snowy ones, even in the discomfort, there is a sense of triumph."

Yet what the eye beholds depends on the beholder. "Many similar buildings were put up about that time, not very good ones," graduate and former superintendent Lieutenant General Bradley Hosmer tells Duane Boyle—the current chief architect—in *Modernism at Mid-Century*. "Many people associate this style with a cheap mass-produced artifact. [Today] most of that lousy stuff . . . has fallen of its own weight, and the quality construction remains."

In the meantime, perceptions continue to shift, adds co-author Robert Bruegmann. "While for many visitors [the] marble lines in the [central plaza] pavement echo beautifully the controlled precision required of an Air Force pilot . . . for others they suggest the rigidity of military bureaucracies."

Above: Color captures the sun's rays; the eye escapes to nature through interstitial openings.

The academy—now a national historic landmark, recognized for its role in military history and aviation as well as architecture—may be the zenith of postwar minimalism. Still, the symbolism is baroque, and sometimes open to interpretation. To an extent, that's probably a product of architects having to represent a broad constituency, and themselves, in abstract form. And everyone, it seemed, wanted in on the action.

IT WAS A COMPLEX TIME, AS AN ASCENDANT SUPERPOWER SOUGHT symbols for a technological era. The academy had to stand for both the nation and a new wing of the military.

The institution's visibility, here and abroad, made it a lightning rod for debate. In the vortex was the architectural firm of Skidmore, Owings & Merrill.

"Just who was our client?" ruminates co-founder Nathaniel Owings in his autobiography. "By definition this at times could and did include every official with any opinion . . . There were the President of the United States, 12 to 14 members of the cabinet, some 96 members of the Senate at the time, 435 members of the House, the bureaucracy of the armed forces with special emphasis on the secretary of the air force, the undersecretary, and the generals."

Add to that the lobbying legions—like scorned competitor Frank Lloyd Wright. Pontificating before a congressional committee, he dubbed the design a "factory for birdmen." The firm slogged through, its nature helping navigate the challenge. And even land the contract.

"SOM was so large that a bureaucracy like the Air Force could relate to them," says Boyle. Of a breed that evolved during World War II, it was a multilayered corporation that handled siting, design, engineering—the works.

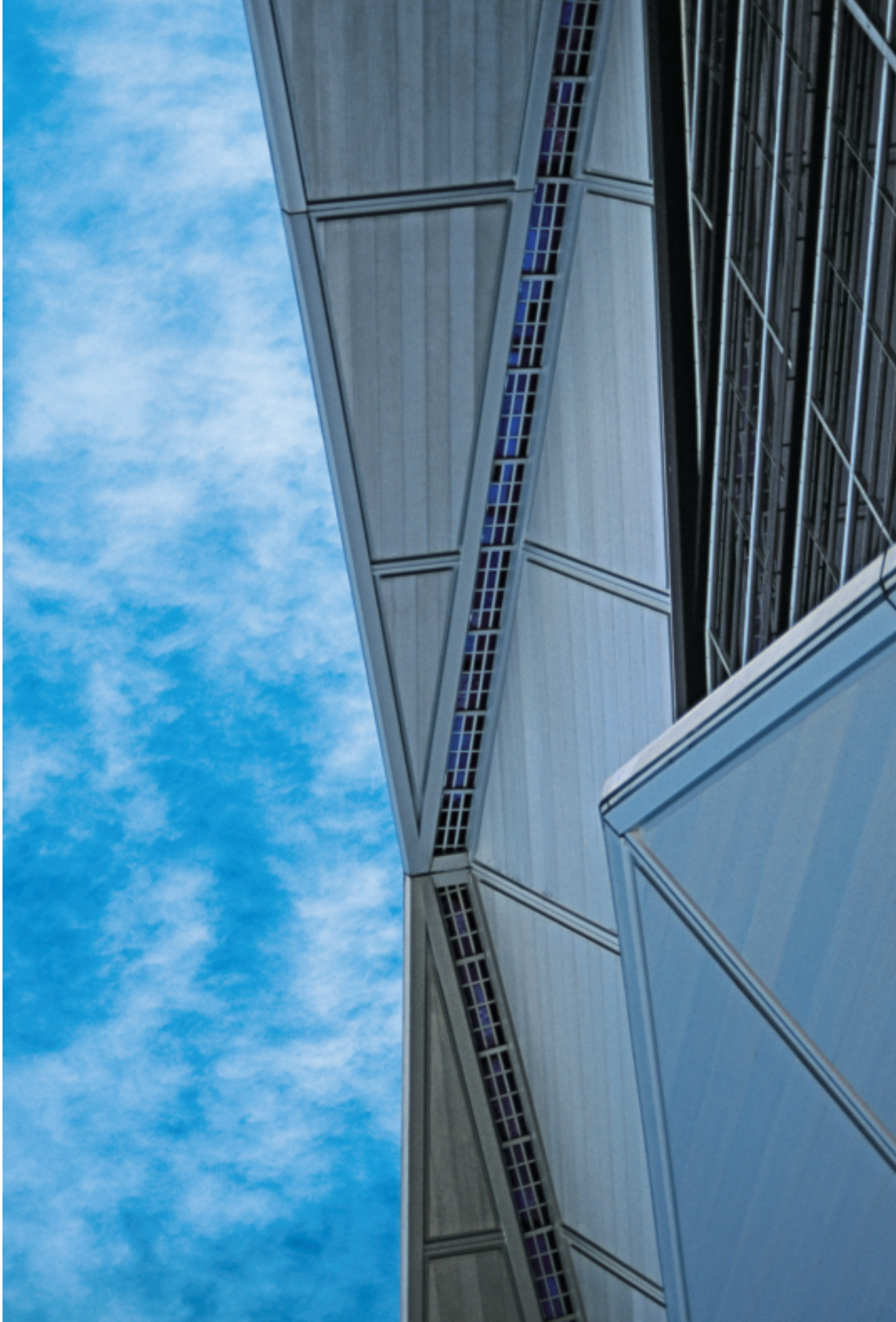
"A partner in one of these firms shared a number of attributes with a top military officer," Bruegmann says. "Usually highly trained, he too was aware of belonging to an elite profession, one that, like the military, had a long and impressive history, and one that, again like the military, if not always appreciated or understood, at least commanded considerable prestige."

Right: The chapel's skin inflamed opponents; supporters said if cadets were to fight and die in aluminum, they could worship in it too.

Lesson in air power

Teaching guide looks at the academy and its times

Cold War geopolitics, strategic air power, and aviation history come together in an online lesson plan—the latest in the National Park Service Teaching with Historic Places series. **The United States Air Force Academy: Founding a Proud Tradition** helps students understand how fast-developing aviation technology changed military thinking in the quest to contain Communism, accelerated by the founding of the Air Force in 1947. The lesson looks at how the academy's design and symbolism reflect this context—and how Annapolis and West Point likewise recall the times of their founding. The plan, for grades 5 through 12, includes activities, readings, maps, and photographs that trace the rise of air power since World War I. Students are encouraged to interview people who remember life in the Cold War. The series now has over 100 lesson plans. **For more information, go to www.cr.nps.gov/nr/twhp.**



WEST POINT AND ANNAPOLIS HAD NOTHING ON THIS PLACE . . . LOOKING OUT OVER LANDFORMS RISING AND FALLING TO THE SOUTH—WITH VALLEYS IN BETWEEN—THE SITE STOOD AT THE FOOT OF THE FRONT RANGE, A GRAND STROKE OF GEOLOGY THAT RUNS DOWN FROM CANADA FACING WHAT WAS ONCE AN INLAND SEA.

Notably, SOM used the one-stop-shop approach to erect "Atom City"—Oak Ridge, Tennessee—almost overnight. That feat was tough to match.

Out of over 300 competitors, the firm took the ring; a Wright-led consortium was runner-up.

At firms like SOM, architects were rational businessmen, not temperamental artists. At least that was the image. The goal was "anonymous architecture," not " flashy 'stunt' design," in the words of émigré Walter Gropius, an acknowledged leader in the field. Teamwork was in, the individual was out, science was in the driver's seat—an approach Gropius pioneered at the Bauhaus as Germany rebuilt after World War I. Some believed it deprived personal credit, others that it produced lifeless work, devoid of individual genius.

At SOM, anonymous was the house style. "The firm bears its name like a trademark," says the catalogue from the company's exhibit at the Museum of Modern Art in 1950. "It is like a brand name identifying its work, which is persistently characterized by the idiom of the firm rather than that of any individual within the firm."

The International Style—glass its signature—suited the corporate landscape of the 1950s. Says Bruegmann, "In SOM's open, transparent facades American industrialists found a perfect expression of their attempts to present a cool, technologically advanced image to the world."

WITH 27 SQUARE MILES, THE SITE WAS QUITE AN EXPANSIVE CANVAS. Architect Eero Saarinen, another finalist who joined SOM as advisor, found the future home of the cadets while developing his own proposal.

Some wanted the centerpiece down by the highway, a billboard for the academy and the Air Force. Superintendent General Harmon saw it less dramatic, tucked between ridges à la Shangri-La. Chapel architect Walter Netsch recalls that, in the end, "he was convinced that once you had a mountain site, it was foolish to cower down in the valley . . . [it] did not have, ipso facto, to be flamboyant."

West Point and Annapolis had nothing on this place. Perched high in the northwest corner, looking out over landforms rising and falling to the south—with valleys in between—the site stood at the foot of the Front Range, a grand stroke of geology that runs down from Canada facing what was once an inland sea.

Above: Nature envelops the academy, sky ever-present; clever siting hides the sprawl of Colorado Springs. During the planning, Air Force generals recalled their West Point days in trying to imagine the cadet experience. Lacking firsthand knowledge of architecture and the arts, many may have preferred "a cautious, eclectic approach" of applying modern touches to a classical configuration, say Robert Bruegmann in *Modernism at Mid-Century.* At the same time, an oft-heard nugget was that "West Point has 160 years of tradition unhampered by progress."

This was monumental from the get-go. Here the Air Force could show that it stood for the new. At the same time, the sense of place would soon sow the seeds of tradition. SOM likely saw a national stage to sweep away the styles of the past, and post its own ad, too.

Nature as counterpoint to architecture, that was the concept. The architects sought the indigenous—the expansiveness of the West, the sense of "not being confined or pushed together in an artificial little community," says Netsch. They drew contrasts between nature's curves and an emphatic rectilinearity, between greenery and glass, marble, aluminum. And they brought the land right into the buildings.

From the central plaza, the spaces between structures—and over and under—frame nature peeking in from outside. A stroll is cinematic, as frames flicker with changing views of trees, scrub, slope, cloud. The idea was to "contain and release and relax within an exhilarated space [that is] an earth-bound version of the sky."

Dan Kiley, renowned landscape architect, lit up the central plaza with a glow-in-the-dark garden.

The complex is an iconic delicacy, massive and light, over-scale from the outside and human-scale from the inside. The ensemble's bulk, nestled into the mesa, is concealed from pedestrians on the central plaza, with two floors tucked below. And ganging functions in a few structures delivers mass enough for a monument, yet one that kneels in awe of the backdrop. Only the chapel, with its soaring verticals, converses with the peaks behind.

The Air Force wanted a total environment, and they got it. The airfield, the stadium, the salt-and-pepper shakers, even the cadets parading in their dress blues, slipped on the Look. The uniforms—sleek with a touch of Roman gravitas—drew cheers from the cadets, a salute to Cecil B. DeMille and his costumers. Walter Teague Associates designed the furniture and equipment—enough to cover 80 acres.

The place was a commercial for technology, pushing breakthroughs in the building arts. With all the nature afoot, the classrooms were enclosed with wall-to-wall blackboards, fostering eyes-front, no splendor to distract. Indoors, the academy abounds with small touches, mitigating the coldness for which mid-century modern is often accused.

THE COMPLEX IS AN ICONIC DELICACY, MASSIVE AND LIGHT, OVER-SCALE FROM THE OUTSIDE AND HUMAN-SCALE FROM THE INSIDE. THE ENSEMBLE'S BULK, NESTLED INTO THE MESA, IS CONCEALED FROM PEDESTRIANS ON THE CENTRAL PLAZA, WITH TWO FLOORS TUCKED BELOW. AND GANGING FUNCTIONS IN A FEW STRUCTURES DELIVERS MASS ENOUGH FOR A MONUMENT, YET ONE THAT KNEELS IN AWE OF THE BACKDROP.

TODAY, THE PLACE HAS A SENSE OF INEVITABILITY. But in early 1955, SOM had a tough sell ahead, contracting the likes of Ansel Adams and top exhibit designer Herbert Bayer to help present the plan at the Colorado Springs Fine Arts Center, an artistic venue that would help confer validation.

Architects of spectacle, the firm knew how to put on a show, tapping formative experiences at the 1933 Century of Progress Exhibit and the 1939 World's Fair, where, says Robert Allen Nauman in *On the Wings of Modernism: The United States Air Force Academy,* the architecture "often served as large billboards, either directly or through allusion."

As the Air Force handed Nathaniel Owings $100,000 for the exhibit, they advised him to design "for clarity and simplicity, keeping in mind always that criticism of the waste of taxpayers' funds for the presentation could easily stem from an elaborate and expensively executed affair. For example, a simple stenofaxed fact sheet could serve the same purposes as an expensively printed brochure." Owings suggested that Bayer design with a "monastic quality [using] clear austere backgrounds of muslin or monk's cloth with exhibits standing out starkly and simply under effective lighting."

The architects argued against a hierarchy that bestowed size on a library versus, say, a mess hall (left) or a dorm (below). The most avant garde of the modernists decreed that "if a building were fit for its purpose and structurally sound, that was enough," says Robert Bruegmann in *Modernism at Mid-Century.* "Certainly, the palace, the church, the opera house, the museum—all of the monumental buildings that represented the control of bourgeois authority—needed to be replaced by new egalitarian monuments: the efficient factory, the communal housing block, the workers club."

Bruegmann says that the International Style was tailor-made for the academy. "Unlike the users of most government buildings, who could clutter up the clean lines of the buildings with inappropriate personal effects, the military could impose a discipline on the way the buildings were used. At a more basic level, moreover, one of the most important tenets of modernism was a belief that architecture could not just influence its inhabitants but could play a major role in molding individuals and society. This coincided perfectly with the idea of the military academy."

Right: Chapel steps leading to a lower-floor "crypt" shared by Catholic and Jewish worshippers, inspired by the two-floor arrangement of Italy's Basilica of St. Francis of Assisi. The top floor is for the more populous Protestants; architect Nathaniel Owings joked that they "needed those extra seventeen-and-a-half feet for a head start to heaven."

In other words, project an illusion of economic restraint. Owings called the result "great theater."

The exhibit, says Nauman, "created a vision of an Air Force Academy based on the notion of a heroic past progressing toward a utopian and technologically determinate future. [This] allowed the viewer to engage in a psychological dialogue in which [the] conquest of the West by heroic pioneers could be metaphorically linked to the heroic achievements of a country emerging triumphant from a world war." An image recalling the Greek Acropolis—the first in a series of illustrations—set the tone. Rows of cadets in formation seemingly emerged from the mountain backdrop, marching en masse past the proposed chapel and library. Here, Nauman says, was the wedding of God, nature, and the temple of technology.

The other illustrations in the set, all superbly rendered, continued the theme. Adams chimed in with sanctified images of the landscape, God's-eye-view aerials supplied by renowned lensman William Garnett. The models, too, were from a heavenly perspective, showing the manmade nesting with nature.

SOM wanted a national run for the show, to garner support. It was not to be.

A few years earlier, this kind of fare had played pretty well at the firm's Museum of Modern Art exhibit. But that was New York City.

THE EXHIBIT TOUR WAS NIXED AS SOM FACED CRITICS IN THE CONGRESSIONAL hearing room. At first, Congress, well represented at the Colorado Springs opening, seemed to go along. No one expected a rubber stamp—not SOM and not the Air Force—but they were not prepared for the firestorm either.

"The implication was that matters of judgment on aesthetic issues should be left to the profession itself," says Bruegmann. "The controversies surrounding the design of the academy marked a distinct escalation in the ability of the public at large to challenge the architects' assumptions and translate their views into political action."

Reviews in the media ran the gamut. The architectural press, in the throes of modernism, waxed ecstatic. The negative views, however, found a bullhorn in the hearings.

Advocates for a classical design joined forces with the masonry industry, their key spokesman Representative John Fogarty of Rhode Island, former head of a bricklayers' union. "It is difficult to find any trace of American heritage in the cold, impersonal, and mechanical appearance of these buildings," he said.

All found an ally in Frank Lloyd Wright, who sidestepped the code of architects, which frowns on criticizing others lest it look like trying to commandeer a commission. Wright ran his own plan up the flagpole.

Wright's inspirations—organic forms by way of Emerson and Whitman—colored his critique. The design was "a violation of nature," he said. "[This] is not genuine modern architecture . . . It is a glassified box on stilts which is practiced abroad and has now become fanatic with certain of our commercial architects. They are the ones that unfortunately succeed in government work. A man like myself would never be thought of in connection with a government job."

WOULD PEOPLE SALUTE A GLASS AND METAL monument? That was the question.

The authoritarian visage of Albert Speer's Zeppelinfield—immortalized by Leni Riefenstahl's *Triumph of the Will*—signaled that classicism was in trouble. The Soviets, after a brief flirt with modernism, also made it house style, threatening to co-opt the brand.

Monuments were by nature oppressive, said the Bauhaus. "Many modernists argued that all of the great monuments of the past, from the great pyramids to the Capitol in Washington, were symbolic expressions of power and coercion," says Bruegmann. "A true modern democratic society should [have] no need to express power and no desire to create invidious hierarchal distinctions between civic structures and housing blocks."

"[THIS] IS NOT GENUINE MODERN ARCHITECTURE . . . IT IS A GLASSIFIED BOX ON STILTS WHICH IS PRACTICED ABROAD AND HAS NOW BECOME FANATIC WITH CERTAIN OF OUR COMMERCIAL ARCHITECTS. THEY ARE THE ONES THAT UNFORTUNATELY SUCCEED IN GOVERNMENT WORK. A MAN LIKE MYSELF WOULD NEVER BE THOUGHT OF IN CONNECTION WITH A GOVERNMENT JOB." **—FRANK LLOYD WRIGHT**

Most architects likely still felt the need. But how could an evanescent architecture—which aimed to topple tradition—replace palpably heavy columns, arches, and beams that recalled a mythic past? Says Breugmann, "The idea that one could create a genuine monument, which by definition meant a structure that reflected the values of the people, in a style that was avant garde . . . must have seemed even to many modernists to be contradictory on the face of it."

SOM had already run into trouble overseas when its design for a new Munich consulate drew local fire

for snubbing the historic surroundings. That experience was likely still ringing in the ears of Congress when the academy plan appeared on the hearing docket.

THANKS TO THE NEGATIVE TESTIMONY, ON JULY 14, 1955, THE HOUSE APPROPRIATIONS COMMITTEE DENIED allocations pending a revised plan. The next day, Representative Rogers of Colorado demanded an explanation, and was told the design "would appear to be an appropriate edifice for a modern factory."

Rogers responded that the architects were busily replacing glass with stone. Colorado Representative Chenoweth added that the chapel (a prime target of ire) had already been changed. SOM, dodging the flak, tabled the chapel until project's end, with architect Netsch dispatched on a tour of Europe's churches.

Pressure building, and with papers like the *San Francisco Chronicle* and *Denver Post* decrying the legislators' lack of knowledge in matters architectural, hearings in the Senate reconvened July 18.

Nathaniel Owings—the firm's most persuasive partner—took the mike. He explained the new emphasis on stone, tying into the rocky site. And he stressed the bottom line. "Architecturally we are in a modern age. Modern architecture as such has been dictated by

economics. If we tried to reproduce a gothic or colonial architecture, we would have to ask for almost double the appropriation."

He brought a raft of visuals along too. Senator Ellender asked for assurance: "If any other design had been submitted, as some of us thought would be the case—perhaps a colonial style or something else—the academy would have cost a good deal more, would it not?" "Absolutely," Owings replied.

Though the new design evidenced largely cosmetic changes—stone replacing glass—the discourse turned to how far it was to the toilets vis-à-vis West Point. The subcommittee gave its support.

Owings put on a repeat performance the next day for the full committee on appropriations. Representative Whitten observed, "The pictures . . . which were presented to us before, and the pictures you have today—there is no substantial difference in general appearance?" The character of the buildings was the same, he was told.

Other members said the "new" design was a compromise between the "antiquated past and modern present." Representative Miller asked, "Is there any place for ivy?" Owings replied, "Yes; that is one of the nicest things you can have around these things. It really warms it up."

Congress approved funding.

WRIGHT CONTINUED TO BLUSTER: "THE DESIGN WAS OF THE SORT to be expected of an efficiency expert selecting efficiency-architects . . . [It] slanders the strength and beauty of the American spirit. In abstract but realistic terms it is the perfect picture of the beauteous mountain-maid betrayed by the city slicker."

Maybe Congress had reached an impasse. Should Wright be put in charge, or would his cantankerousness combust with the bureaucracy? Perhaps modernism lacked expressive range. Was literal the answer?

The construction went forward, and today the academy survives largely intact, thanks to the perseverance of the Air Force. SOM was called in after a decades-long hiatus to draft guidelines for infill buildings; today, even the new Burger King sports the Look.

Netsch—excused from the "anonymous" dictate—came back from the continent to design the academy's masterwork, the cadet chapel. An instant icon, its metallic majesty recalls the gothic spires of rural Europe. Some see upended fighter jets. Others see hands held upward in prayer.

Ultimately, the International Style—"as styleless as the most modern guided missile," Owings said—waned. Even missiles are of their time. And not many years later, the memorials to Vietnam and World War II would bring an eerie replay of the academy debate.

Another century may see something different in these places. It may always depend on who's looking.

For more information, contact Duane Boyle, Chief Architect, U.S. Air Force Academy, Colorado Springs, CO 80840, email Duane.Boyle@USAFA.af.mil, www.usafa.af.mil.

Above left: The goal was to create "an earth-bound version of the sky," said the architects. Near left: Doors of the chapel "crypt." The academy is one of the most intact architectural ensembles of its era.