"I have realized that the inside is more important than the outside, that the soul is more important than the body, and to the best of my ability, I have stood for the things of the spirit. Yet, I have felt that the physical beauty of the campus—a campus worthy of the splendid setting with which nature has endowed it, a campus worthy to be the outward frame of the University's soul, would be an educational place enhancing the morale and spirit of all who come into and go forth from its halls. That is why I have had great interest in the material development of the campus."[1]

—From an address by University President George Norlin at the dedication of new buildings on June 9, 1940

BODY & SOUL

A Partnership of Architecture and Academics
at the University of Colorado Boulder

■ A Centennial Update

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First edition published in 1994 in Boulder, Colorado, by Publications Service, University of Colorado Boulder

Second edition published in 2018 in Boulder, Colorado, by William R. (Bill) Deno, FAIA, Campus Architect Emeritus (Retired)

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Printed in the United States by CPC Neutek, Grand Junction, Colorado

The paper used in this publication is archival, FSC Certified, with 10% post-consumer waste Made by Sappi in Minnesota, U.S.A.

Photography and Illustrations:

Ken Abbott: pages 20, 26 | Glenn Asakawa, Strategic Relations and Communications, University of Colorado Boulder: page 40 | Guido Biffoli: page 15 | Paul Brokering: pages x, 35 | Casey A. Cass, Strategic Relations and Communications, University of Colorado Boulder: pages 11, 13, 29, 30 (both), 31, 32, 33, 34, 37, 45 | William R. Deno: dust jacket (bottom), pages 4, 21, 23, 42, 43 | Facilities Management, University of Colorado Boulder: page 46 | Heritage Center, University of Colorado Boulder: page 7 (both) | Elizabeth C. Johnston: illustrated maps pages viii, 41 | Special Collections and Archives, University of Colorado Boulder Libraries: pages 2, 5, 6, 19 (top), 22 | University of Colorado Boulder: dust jacket (top), pages 3 (both), 9 (both), 10, 12, 14, 16, 17, 18, 19 (bottom), 24, 25, 27, 28, 39

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Foreword

In the endeavor for excellence, all components of a University contribute to its success. The University of Colorado Boulder enjoys a reputation as one of the most beautiful higher education campuses in the nation—an achievement that complements our outstanding academics. It gives me immense pride to be at an institution where architectural beauty houses academic excellence.

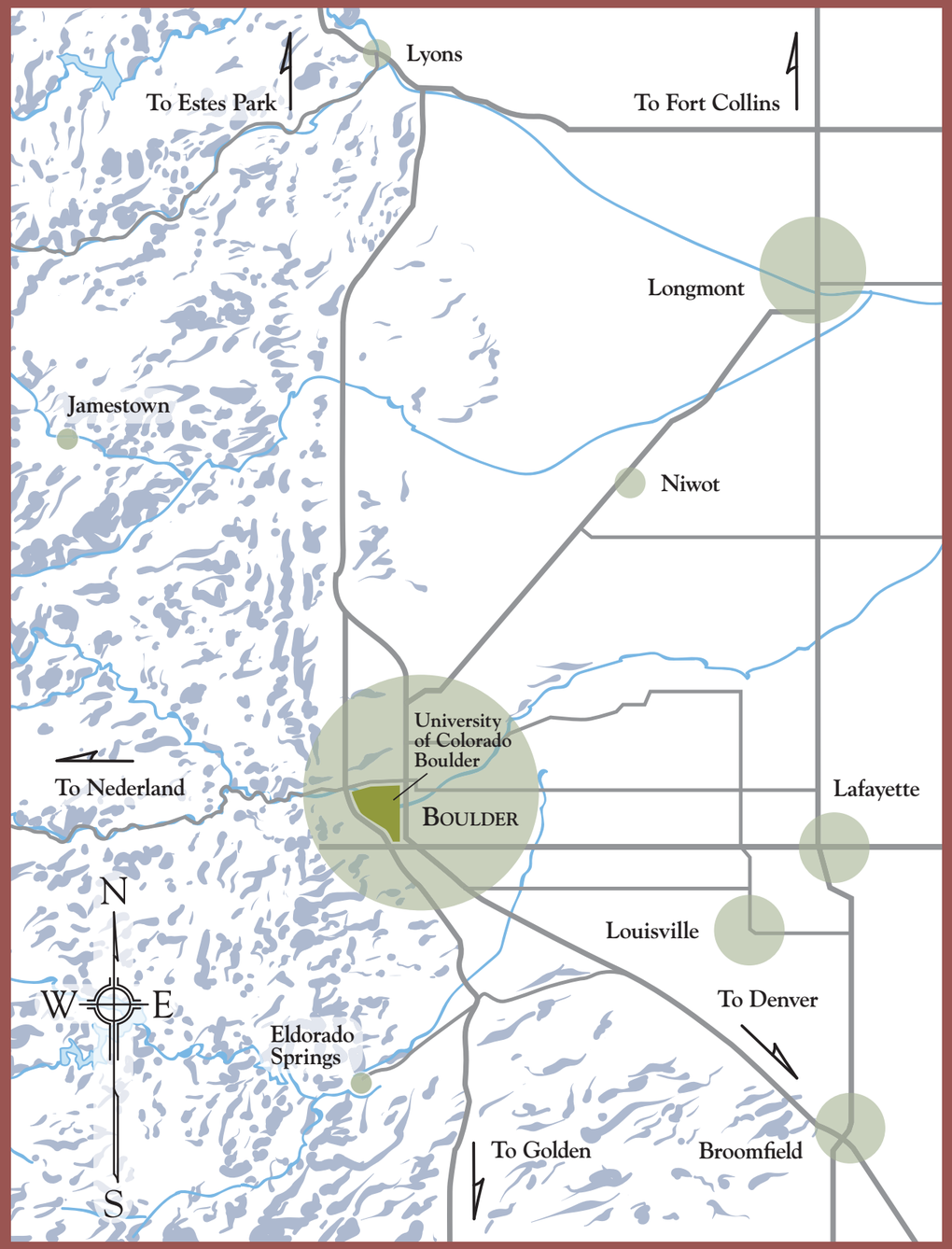
With heartfelt appreciation, I extend my gratitude to our inspiring Campus Architect Emeritus, William R. Deno, FAIA. His continuing vision has ensured the beauty and architectural excellence of our nationally admired campus. For many years, he has played an essential role in improving CU Boulder's physical environment, along with the President's University Design Review Board, the Campus Architect, and those who continue to monitor and guide the development of CU Boulder.

This campus, its architectural body, and its academic soul, became a part of all who call it home—and all who return home. Located in the heart of the Boulder Valley with an impressive Rocky Mountain backdrop, CU Boulder dons sandstone walls, red tile roofs, and limestone trim that is reminiscent of the historic villas and hill towns of Tuscany. This style, initiated by President George Norlin and his architect, Charles Z. Klauder, has endured since 1917 with the support of faculty, staff, students, alumni and citizens of Boulder and the State of Colorado. Through his work, Bill has sustained this original Tuscan-inspired architecture that harmonizes our campus with its natural setting.

It is my privilege and pleasure to recognize this worthy Centennial Edition of *Body & Soul*. Bill's authorship of the original 1994 story and this second edition are a testament to his passion and professionalism. He has generously gifted *Body & Soul* to our campus and has displayed extraordinary commitment to CU Boulder. His vision has truly heightened our campus architecture and excellence, and we are grateful.

Philip P. DiStefano
Chancellor
University of Colorado Boulder

Boulder Vicinity Map



Acknowledgments

One hundred years ago, University President George Norlin, Architect Charles Z. Klauder, and the Board of Regents dreamed of a "campus beautiful" that nourished the academics of the flagship State of Colorado University. Their successors—including President Quigg Newton, University officers Jack Bartram and Tom Mason, consultant Hideo Sasaki, and many others—reinvigorated the dream in the 1960s.

Through the years, regional campuses were added to the CU system, but the original dreamers' vision of Boulder remained, so in the early 1990s, several of us thought it was time to rekindle the "campus beautiful" mission. This led to the first edition of *Body & Soul*, which I wrote in 1994 to tell the story of the physical campus as a *body* that supports an academic *soul*. The acknowledgments contained in that edition should not be forgotten, including our sponsor, Chancellor Jim Corbridge, along with members of the Design Review Board, Archival and Publications staff, Facilities Management colleagues, and a great number of individual supporters.

For this, the Centennial Update of *Body & Soul*, we acknowledge Chancellor Distefano and supporters like those named above. Special mention must be given to the unequaled designer of both books, Elizabeth C. Johnston, who assembled a top-notch team and tirelessly inserted her talented imprint on this publication. The following approvals were critical to this book: Cheri Gerou for the Board of Regents; Vice Chancellor Deb Coffin and Katy Kotarczyk for the CU Foundation; Maggie Wilensky for University Counsel; and Campus Architect Bill Haverly for the Boulder campus.

Throughout this long process I have received valuable encouragement and professional advice from close supporters including Bill Haverly, Tom Goodhew, Adam Gross, Claire Lanier, Robby Layton, Paul Daugherty, Kathy McClurg, Marvin Sparn, and Mark Meredith. Others include faculty and staff on the Boulder campus and beyond, my peers in the architectural community, and friends too numerous to mention. All have joined me in celebration of gifting this Centennial Update of *Body & Soul: A Partnership of Architecture and Academics at the University of Colorado Boulder* to the community in and around the Boulder campus.

William R. (Bill) Deno, FAIA Campus Architect Emeritus (Retired)

February 2018

University of Colorado's Boulder setting (opposite page)

The campus location is at the foot of the Rocky Mountains, about 5,400 feet above sea level. Outdoor recreational activities are at its front door, and nearby communities, including Denver, are close by. Not shown are plenty of sunshine and (mostly) friendly people. ■



Introduction

The allure of the University of Colorado Boulder campus—with its native stone walls and picturesque red tile roofs nestled against the Front Range of the Rocky Mountains—is well known. Incoming scholars, curious visitors, and admiring critics have lauded its beauty, and in a 1991 book titled, *The Campus as a Work of Art*, author Thomas A. Gaines named the Boulder campus the fourth best in the United States. His grading system considered such criteria as urban space, architectural quality, landscape, and overall appeal. Only Stanford, Princeton, and Wellesley College preceded CU Boulder, which was the highest-ranked public institution on Gaines's list of the top fifty campuses.

Over the years, the campus in Boulder, Colorado, has been on the receiving end of numerous other accolades:

> *"Edwin Way Teale once said, 'The world's favorite season is the spring; all things seem possible in May.' He could have been inspired by the springtime vision of the University of Colorado campus in Boulder. The lush planting, the succession of flowers in bloom, and the many leaves bursting from a great variety of trees make all things seem possible here."*
>
> —*Gaines, Thomas A., 1991.* The Campus as a Work of Art, *New York, NY: Praeger*

> *"Normally in America such a superb site would be occupied by a golf course, but somebody goofed and instead they built what may be the most beautifully situated campus in the world."*
>
> —*Haggart, Simon. "Us and Them."* London Observer, *April 23, 1989*

> *". . . the expansion of this university is the most earnest and the most successful effort in the U.S. today to integrate new buildings with an existing campus."*
>
> —*Dixon, John Morris.* Architectural Forum, *October 1966*

> *"There is an indisputable visual kinship throughout Klauder's campus. His hill-town forms, arcades and loggias provide an agreeable backdrop for the urban space in his design. Like stage props delineating the areas in between, his structures play their parts well."*
>
> —*Gaines, Thomas A. 1991.* The Campus as a Work of Art, *New York, NY: Praeger*

> *"As a young architect, Cabell Childress, author of the new dance building at the University of Colorado, participated in the university's 1960s wave of campus expansion and took the occasion to probe its every cranny: 'It is still,' he asserts, 'the most beautiful of some 154 campuses he has explored.'"*
>
> —*Caskie, Margaret.* Architectural Record, *October 1984*

The "campus beautiful" today (opposite page)

The campus of the University of Colorado Boulder is considered by many as one of the most beautiful settings for higher education in the United States, due in part to its unique architectural style and mountain backdrop. Within Colorado, the buildings and grounds are generally considered to be a treasured resource by the professional architectural community and the general population, as well. ■



President's House, now Koenig Alumni Center

The first president of the new State University of Colorado, Joseph A. Sewall, and his family lived in Old Main, the first University building, until this house was completed in 1880. With periodic remodeling and additions, this Victorian dwelling served as a home for his successors until 1964 when presidential housing was moved off campus. Since then, it has housed the Alumni Association and hosted a variety of social and business events for the campus and city (sans the cow). ■

The road to such acclaim was often bumpy. Even the selection of the spectacular site was difficult and earnestly contested in the political arena.[2] After the Territorial Legislature authorized the University in 1861, it took another fifteen years before the first building was finished. Buildings constructed over the next four decades represented a variety of eclectic styles with little visual cohesiveness.

Dr. George Norlin—a popular professor of Greek and acting President from 1913 to 1916—decided that the campus buildings and grounds needed a new direction. He had commented that the place looked to him like a "third-rate farm,"[3] and the time was ripe for rejuvenation. Dr. Norlin had a vision of the University that encompassed the inside (the soul), with the outside (the body) in a harmonious way. This vision furthered his long-standing commitment to the material development of the Boulder campus. Upon the resignation of University President Livingston Farrand, Norlin became the University of Colorado's fifth president on February 7, 1919.

Norlin's first step was to enlist the assistance of an architect to prepare a master plan for a campus that would accommodate up to 3,000 students—more than double the existing enrollment at the time. With the approval of the Board of Regents, Norlin hired Day and Klauder, a well-respected, Philadelphia-based architectural firm that had experience working with eastern universities. The firm completed a master plan in 1919, and over the next twenty years, Charles Z. Klauder designed fifteen buildings according to this plan.

The remarkable collaboration between President Norlin and Architect Klauder produced an architectural pattern of buildings and open space that worked remarkably well—both then and now. It resulted in a building form—a "University of Colorado style," as it was called—that was unique for American universities and one that met Dr. Norlin's vision for a new "body and soul" for his University.[4]

The following narrative and graphics are intended to provide insight into the historical development of the University's architecture and grounds, its palette of building materials, and its vision for future development. Today, with 33,200 students in the fall of 2016, the campus is regarded by many citizens from Colorado and across the nation as a collection of buildings and open space of supreme quality, value, and beauty.[5] As such, it deserves careful attention when altered or added to, so that future development is done with both the spirit and high aspirations of President Norlin and Architect Klauder in mind.





First campus buildings on the bluff overlooking Boulder (above)

Early citizens of the town below this treeless bluff donated the land that became home to the first University buildings. Including Old Main, all buildings at that time faced north to recognize their relationship to Boulder. ■

The bridge connecting the town to the gown (left)

Before the Bluebell Creek was dammed to produce Varsity Lake, this rickety 1880s bridge sufficed to make the connection down a path to Broadway and University. ■

Historical Development of CU's Architectural Style

Years after the University of Colorado was founded, Boulder was selected over several other locations, including Cañon City (which was later chosen as the home of the state prison), and CU's first building was completed in 1876. It was a joint venture of the citizens of Boulder—a small railhead, mining, and farming community—and the newly chartered state of Colorado. The (Main) University building (now called Old Main) was a load-bearing building with red brick walls. The first-story foundation of local stone topped with gigantic, railroad-type wood trusses supported a hip roof and two towers. One tower housed an enormous, 1,000-pound, cast-bronze bell, and the opposite tower commanded a view of the town below. Boulder's citizens contributed the land and half of the $30,000 needed to construct the 25,000-square-foot edifice.[6]

This first building sat alone on a treeless bluff subject to a hostile environment, which one memorable night delivered down-sloping, winter winds powerful enough to blow down the north tower. Within the next ten years, three houses were added nearby—one to accommodate the president of the University and his family, and one each for male- and female-resident students. Until then, Old Main housed all University functions including the classrooms, library, chapel, dormitories, and offices for President Joseph Sewall and his faculty. The Sewall family also lived there, along with the building custodian and his family.[7]

By 1890, a new men's dormitory, Woodbury, and the Hale Scientific Building, flanked by Old Main, also faced the town below the bluff. A library building named for local banker Charles F. Buckingham, a law building donated by Simon Guggenheim, and a chemistry building were later constructed across an open space from Woodbury, Old Main, and Hale. An engineering building was constructed at the east end of this open space, and the resultant quadrangle was later named the Norlin Quadrangle in honor of President Norlin.

These early buildings were constructed in a variety of architectural styles popular at the time including Richardsonian Romanesque Revival, Neoclassical, and American Renaissance. The house for the president and the men's and women's cottages could be classified as Victorian. Most of the buildings consisted of combinations of brick and locally quarried stone, and the colors varied from building to building. By 1918, several building styles were in place around Norlin Quadrangle, with overtones from Second Empire, to Gothic and Romanesque, to Victorian Gingerbread.

Soon after, Andrew J. Macky, a prominent Boulder banker, bequeathed a new auditorium. It was situated on the edge of the bluff north of Old Main and Woodbury, and along with a 2,800-seat auditorium (which was to become both a campus and community resource) it was planned to house the

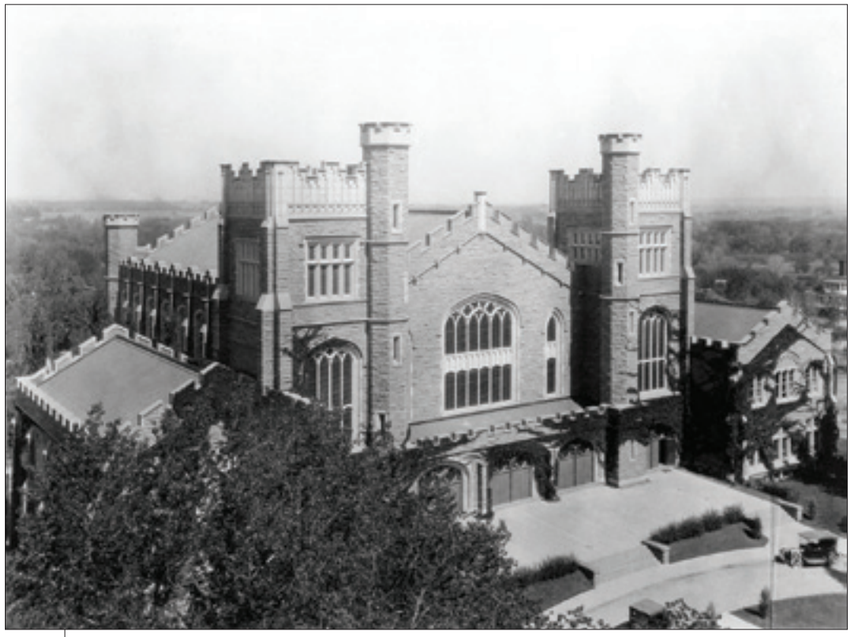
A humbling start to George Norlin's vow (opposite page)

Sometime in his first years on the Boulder campus, professor George Norlin said "the place looked like a third-rate farm," and he vowed to do something about it. ■



Happy new year to Old Main (above)

As the calendar turned from 1899 to 1900, the elm trees were thriving, and the people in Boulder hoped the lawn would survive another winter. ■



Culture comes to campus

Macky Auditorium (1910–1922) in the English Collegiate Gothic style completes the collection of pre-Klauder buildings of varying architectural styles. From that time forward, an amazing new look to the campus took place. ■

University's administrative offices. Macky died sometime after the cornerstone was laid, and it took twelve years to complete the building due to a family dispute over his will. Gove and Walsh of Denver designed Macky Auditorium as a dominant campus building in a variant of the English Collegiate Gothic style, popular with higher education governing boards at that time.

The "University of Colorado Style" is Born

In early 1918, Day and Klauder began preparing their master plan to accommodate up to 3,000 students. They offered a Proposed Plan for Development of the University of Colorado, which was approved in 1919.

The architects were told to prepare building plans for a liberal arts building, a men's gymnasium, and additions to the library and chemistry buildings. Charles Z. Klauder created his first sketches for these buildings in the English Collegiate Gothic style. His prior experience with buildings at Princeton University and Wellesley College led him naturally in this direction.[8]

Klauder constructed a model of the Campus Development Plan, and he modified it over the years to reflect alterations in his design thinking. This model has been preserved and is currently kept in storage at the Heritage Center in Old Main. In his original concept, Klauder considered some older buildings to be expendable, including Old Main, and the brick facades of the remaining buildings could be camouflaged with paint to blend harmoniously with the newer buildings that he proposed. He seemed to place proposed new buildings strategically to block views to older buildings (Ketchum in front of the Engineering Shops, for example.) Subsequently, Klauder decided to resubmit his sketches in a new architectural style of his own invention—one that was more in keeping with available local building stone and the site's mountainous setting. He was persuasive, and the Regents agreed with his argument that a campus full of Macky/Gothic style buildings would be out of place.



A model of the 1919 Campus Development Plan

Klauder constructed this model in 1918, which was modified over the years to reflect alterations in his design thinking. The size was immense—nearing 8x12 feet. After its use at various early presentations, it was on display for many years at the Heritage Center on the third floor of the Old Main building. The model was placed in storage in 2016 to make way for the impressive Lego exhibit currently on display.

The top photo shows a view of the model that overlooks campus. In the middleground, one can see Hale Science building and a glimpse of planned future buildings beyond. Over the years when the model was on display, scores of visiting school-age children and people from every corner of campus and beyond crowded around the scale model to marvel at its craftsmanship and view of how the campus might look in the future.

Klauder said the purpose of the model and the accompanying Master Development Plan was to describe a "solution along broad and far-seeing lines, not for the next ten or twenty years, but for the next fifty or one hundred. It should be done so that future generations will be unhampered by a start made with some makeshift end in view." ■



Between 1921 and 1939, Klauder designed fifteen buildings in Italian Vernacular Revival Style. He declined to give his style an official name, referring to it simply as "University of Colorado Style." Over the years, those on campus and in Colorado's architectural community have referred to it informally as "Rural Italian," which of course it is, but the country farmhouses from which it came also exhibit urban detailing found in hill towns near Florence, Italy. Defining it as "Tuscan Vernacular" style is probably more descriptive.[9]

Charles Z. Klauder died in October 1938 while completing the working drawings for the University Faculty Club building. His architecture firm dissolved shortly thereafter. The successor firm, Trautwein & Howard, produced buildings on the Boulder campus during the 1940s and 1950s that many believe were increasingly uninspired. By 1960, it was apparent that these later designs were austere, stripped-down versions of Klauder's concept, without the fine detail or careful configuration seen in the pre-World War II buildings.[13]

CU Boulder Buildings Designed by Charles Z. Klauder[10]

Original Building Name		Current Building Name
1921	Liberal Arts	Hellems Arts and Sciences
1923	Library Stacks wing	University Theatre wing
1924	Men's Gymnasium	Carlson Gymnasium
1925	Chemistry wings	East and West wings of Cristol Sciences
1926	Women's Gymnasium	Clare Small Arts and Sciences
1930	Memorial Student Union	Economics
1934	Women's Residence Hall	Sewall Hall
1936	Field House	Balch Fieldhouse
1937	Men's Residence Hall	Baker Hall
1937	Natural History Museum	Henderson
1937	Women's Club	McKenna Languages
1938	Ketchum Engineering	Ketchum Arts and Sciences
1939	New Library	Norlin Library
1939	University Faculty Club	University Club
1947	McKenna addition	McKenna Languages

CU Boulder Buildings Designed by Trautwein & Howard[11]

Between 1947 and 1960, Klauder's successor firm designed 20 principle buildings on the CU Boulder campus.

CU Boulder Buildings Designed by Various Architects

After 1963, several local and national architects designed buildings on the Boulder campus. Each firm was selected for its experience and skill with similar projects.

CU Boulder Buildings Designed in Later Years

The list of buildings constructed between 1994 and 2018 are listed on page 46.



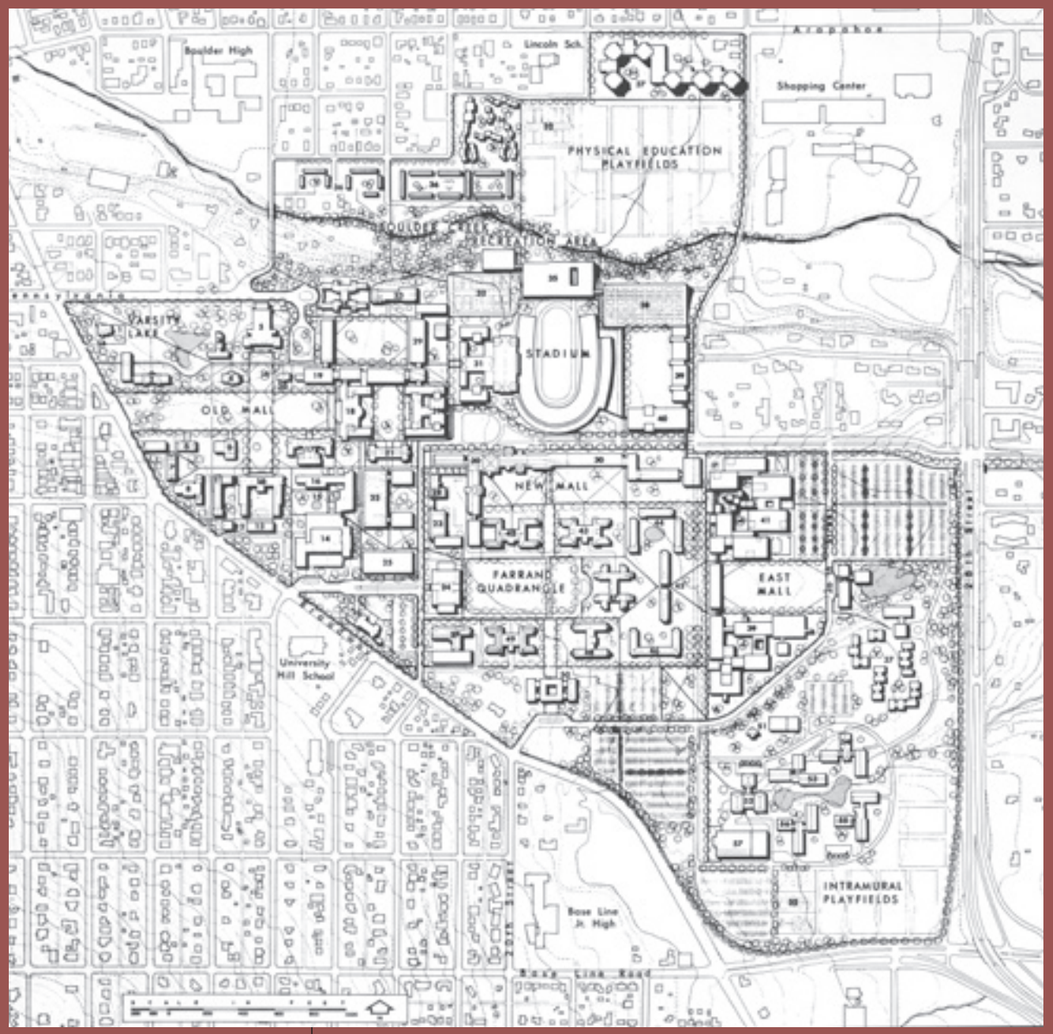


Charles Z. Klauder 1872–1938 (right)

Early in 1920, Klauder addressed the student assembly outlining his plans for the new architecture. He stressed that Colorado would be the first educational institution in the West to attempt a uniform building style. He promised them that his building plan would make Colorado's campus one of the most beautiful in the United States, and he delivered. ■

Scale drawing of building details (above)

One page of documents used to construct the building are shown above, which are meticulously hand-drawn on vellum. Today, all drawings are prepared digitally. ■



1963 Campus Development Plan
Sasaki, Walker and Associates

The 1919 Campus Development Plan (shown on page 14) was designed for a population of 3,000 students; the 1963 plan (above) was needed to address the changes required to accommodate up to 20,000 students. ■

A New Development Plan to Address Change

Several factors led to the commissioning of a new Campus Development Plan in 1963. Some of these included concerns over poor architectural design of the previous two decades, the impending need for major building programs due to dramatic growth after World War II, and burgeoning scientific and research activities. Administrators realized the need to revitalize the inspired spirit that President Norlin and Architect Klauder had brought to the campus some forty years earlier.

Under the administration of President Quigg Newton from 1956 to 1963, exciting new programs transformed CU Boulder from a country college—with its sleepy, story-book architecture—into a contemporary institution. A variety of campus administrators and some members of Colorado's architectural community approached Dr. Newton to advocate a campus expansion in the spirit of the 1919 Day and Klauder Campus Development Plan. The principal leaders of this movement at the University included Eugene Wilson, director of libraries; Leo Hill, vice president of business affairs; Thomas Mason, planning officer; John Bartram, director of budget and planning; Waldo Brockway, director of plant construction; and W.C. (Bill) Muchow, FAIA, a highly respected Denver architect who represented the views of many regional design professionals.

In early 1960, the University hired the planning firm of Sasaki, Walker, and Associates, headed by Hideo Sasaki, chairman of the Department of Landscape Architecture at the Harvard Graduate School of Design, and Consulting Architect Pietro Belluschi, dean of the School of Architecture and Planning at the Massachusetts Institute of Technology.[12] Their charge was to prepare a new Campus Development Plan that would sustain Klauder's original design principles, materials, and humanistic spirit, but also allow for a broader interpretation of building architecture. Sasaki and Belluschi served as design consultants on all buildings and landscape projects through the major growth period of the 1960s. Klauder's design concepts have continued to guide building projects ever since.

In 1968, the University Board of Regents formed an external design group, the Design Review Board, to review ongoing planning and development projects on the University of Colorado Boulder campus.[13] The first three members included Hideo Sasaki as chairman, W.C. Muchow, the same architect who originally urged President Newton to undertake a new direction, and one other professional consultant. Over the years, the Design Review Board has added members to accommodate additional campuses in Denver, Colorado Springs, and the Anschutz Medical Campus in Aurora. Their charge is to review and approve facilities master planning, urban design, landscape architecture, and building design.

Gargoyle within a scroll

Look closely and you will see red eyes peering at you from the center cartouche high above the entrance doors to the 1924 Men's Gymnasium, now Carlson. ■



Campus Design Description

Since 1964, the University Board of Regents has awarded building commissions to architects who, through various screening criteria, are perceived to be the most highly qualified for a particular project.[14] This policy superseded the single-firm approach used since 1919. The new policy was meant to lessen repeat commissions, resulting in a new architect for each project and a new set of preconceived notions about what constitutes "Tuscan Vernacular Style," but most project architects underestimate the challenge. Existing campus buildings are there in plain sight—not for imitation, but for motivation. Successful integration of new projects into the design fabric of the Boulder campus follows the principles of Klauder's Tuscan Vernacular style.

Site Planning

Day and Klauder's 1919 Campus Development Plan dictated that buildings relate to one another along connecting axes extending to a center point on the building, or often from the building's principal entry. Buildings were aligned along the edges of open spaces, forming an architectural wall enclosing the space. Buildings near Broadway on the west edge of the quadrangle were never built, and the demolition of Old Main was never realized, but evidence of the need for efficient use of a limited site was apparent, even then. Walks and roads generally were laid on the axes, which tied the scheme together. The fabric of the plan was typical Beaux-Arts style (traditionally rigid and formal as taught at the architecture program at the Beaux-Art in Paris), yet the result was entirely unique and original. Earlier site planning by several people, including a notable effort in 1908 by renowned landscape architect Frederick Law Olmsted, Jr., did not seem to influence the Philadelphia firm's plan.[15]

Building footprints and associated floorplates were shown with widths adequate for double-loaded corridors, yet narrow enough to allow ample natural light in the interior. Where more space was required, a variety of symmetrical wings radiated from the central core, or circled back to form fully enclosed courtyards. Wherever possible, the building plans were symmetrical. The spaces between buildings and the wings of individual buildings ranged from small and intimate, to large and spacious. This variety of "outdoor rooms" is a key element in the charm of the Boulder campus. The large quadrangle was configured similar to the Latin cross (or cruciform church) with a transept and cross-axis.

Architects of this era saw a development plan as a "grand plan" for future development, and details would come later as development progressed. Landscaping sketches were often informal to contrast with the symmetrical buildings. They usually included tree allées along major walkways such as those on the sides of the main quadrangle. As with most plans of this time, little or no attention was paid to campus topography, but this was an important consideration for this site because it is perched on a bluff overlooking the town. Circulation patterns also received little attention; for example, the principal route from town to campus ended at the women's dormitory complex and no path connected the railroad stop to



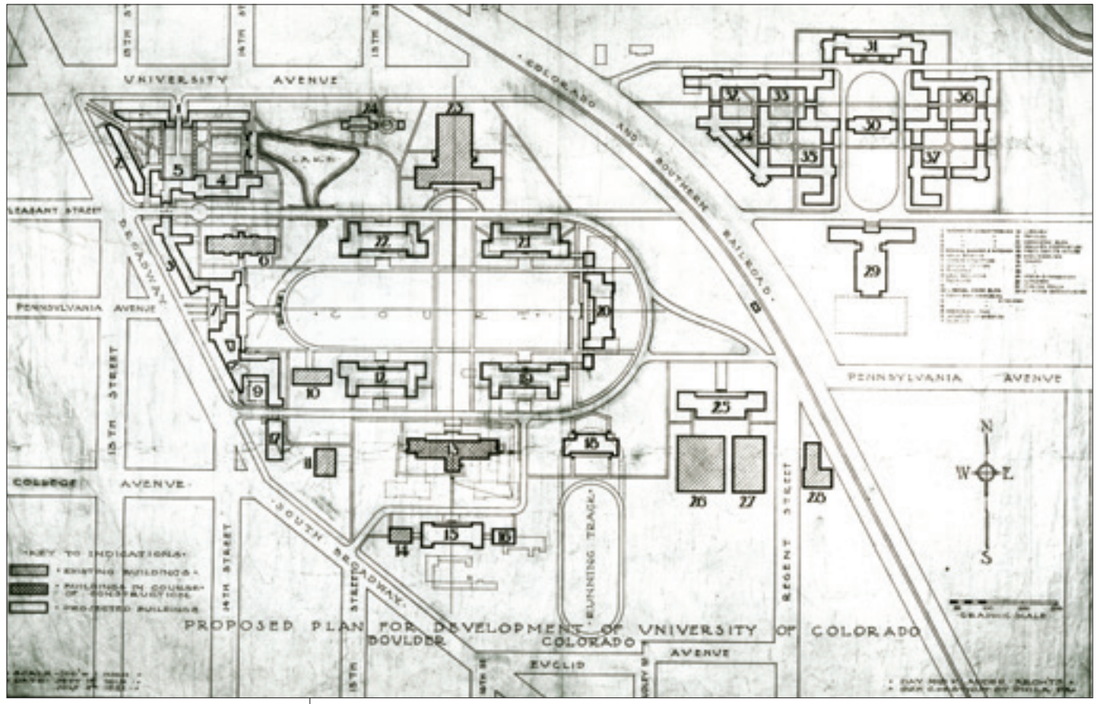
Liberal Arts building, now Hellems Arts and Sciences (opposite page)

The first Klauder-designed building was completed in 1921. He found Boulder's mountainous setting reminiscent of the hills of Tuscany, so he retrieved his photographs and sketches from an earlier trip to that area and used them to develop a unique architectural style that he felt would be most appropriate for the Boulder campus. ■



Typical cartouche

The first building in the new Klauder style included an ornamental oval of carved limestone in a scroll frame called a cartouche. Drawings usually set it at the top of arched forms and above building entrances. ■



Day and Klauder's 1919 Campus Development Plan

Frank Day and Charles Z. Klauder proposed an original development plan that reflected the insertion of the new at the expense of the old. Many existing buildings, including venerable Old Main, were to be sacrificed or shielded from view by new buildings. Where brick-faced buildings remained, they suggested painting the brick in a sandstone color. ■

the men's dormitory complex or to the central quadrangle. On the plus side, a circular service road is shown around the central campus buildings.

Contemporary design professionals recognize that the site planning, although steeped in traditional values, must take a holistic approach to include current and projected needs for circulation, open space, access, hardscape, and softscape. For example, the basic Klauder-building footprints were eventually enhanced by meaningful circulation paths to and from nearby facilities, while stepped walls and plazas recognized changes in grade, and views and vistas both into and out of the campus. Practical building service access, functional water drainage systems, and adequate utilities, including communications, must now be addressed. And of course, universal access for people with disabilities, people-oriented site lighting, exterior furniture, weather-appropriate plant materials, and ground-level materials selection and placement are all considered in today's design practice.

Architectural Design

When it came time to select an architectural style for the buildings, Charles Z. Klauder prepared his first sketches in English Collegiate Gothic, one of the most popular styles for higher education buildings of the early twentieth century. This was the style with which he was comfortable because he had used it successfully on other university campuses.[16] His intent was to use stone from local quarries, cut and dressed in the usual manner, where walls were stacked with heavy blocks of stone in traditional masonry patterns.

Upon further investigation, the local sandstone turned out to be impractical to the forms Klauder envisioned. When cut and dressed into blocks, it exhibited a color and texture that he felt was completely wrong for the wall patterns typical of English Collegiate Gothic buildings. He examined local buildings that used dressed sandstone walls and found that time and weather did not diminish the pink hue of the locally quarried stone. And it was impractical to import large amounts of alternative masonry.

Klauder then looked for other ways to use the available local stone with its unique color and texture. When laid up flat, with the fractured edge left unfinished, an interesting rough texture presented itself. The texture enhanced the contrast of sun and shadow, and it reminded him of the stone walls he had seen during his travels through rural Tuscany. These Tuscan walls were roofed with clay barrel tile and were set against a backdrop of mountains in a climate similar to Boulder. Further, the hill towns around Florence presented a unique image of roofscape that he found fascinating. Determined to find an image of the scene he remembered in his mind, Klauder dug through his photos and found what he was looking for: a view of Fiesole (part of Florence) that he took from a chapel window.[17]

With his original sketches of the Liberal Arts Building, the Men's Gymnasium, and others set to one side, Klauder revised each in a rapid flourish of pencil strokes, converting the shapes to something quite original. The result was a series of buildings that looked similar to the sprawling farmhouses of rural Tuscany, with cascading roof forms reminiscent of the tightly massed Tuscan hill towns—particularly Fiesole. The smattering of classical detail was inspired by similar detail Klauder noted in the city of Florence.[18]



Rural farmhouse near Greve, South of Firenze (Florence)

The variety of roof forms and massing is apparent in this country house in Tuscany. Other buildings in the area exhibited rectangular towers, arched openings, and contrasting stone surrounds on doors and window openings. All have laid-up stone walls and overlapping barrel tile on the roof. This is the source of Klauder's "University of Colorado" style. ■

On his next trip west, Klauder submitted his revised sketches for the University of Colorado buildings to President Norlin and the Board of Regents. He explained that the tile roofs and Boulder's locally quarried stone, if laid as he proposed, would be an appropriate choice of building materials to complement the mountain backdrop and semi-arid climate. The Italian hill town vernacular had a natural affinity with the Boulder setting, he told them. They were pleased with the change and quickly approved the new direction.

As with anything new and untried, some on campus and many townspeople were not pleased with the sketch for the Liberal Arts building—the first of the new genre—and many believed that only ivy-covered walls could camouflage the "unfortunate design" that was proposed. Almost half a century later, the same criticisms were made of the Engineering Sciences Center and the residential housing towers at Williams Village.

Klauder's sketches indicated the following characteristics: walls were piled-up layers of rough-cut stone of varying thickness and pattern; joints were deep





Alternate style studies of Men's Gymnasium, 1917

Architect Klauder sketched the Men's Gymnasium, one of his first commissioned buildings, in two different styles—Collegiate Gothic and an alternate new Italianate style he had under consideration. By the time he returned to campus, he was prepared to lobby strongly for the new style. President Norlin and the Board of Regents were persuaded and approved the new and different University of Colorado Style. ■

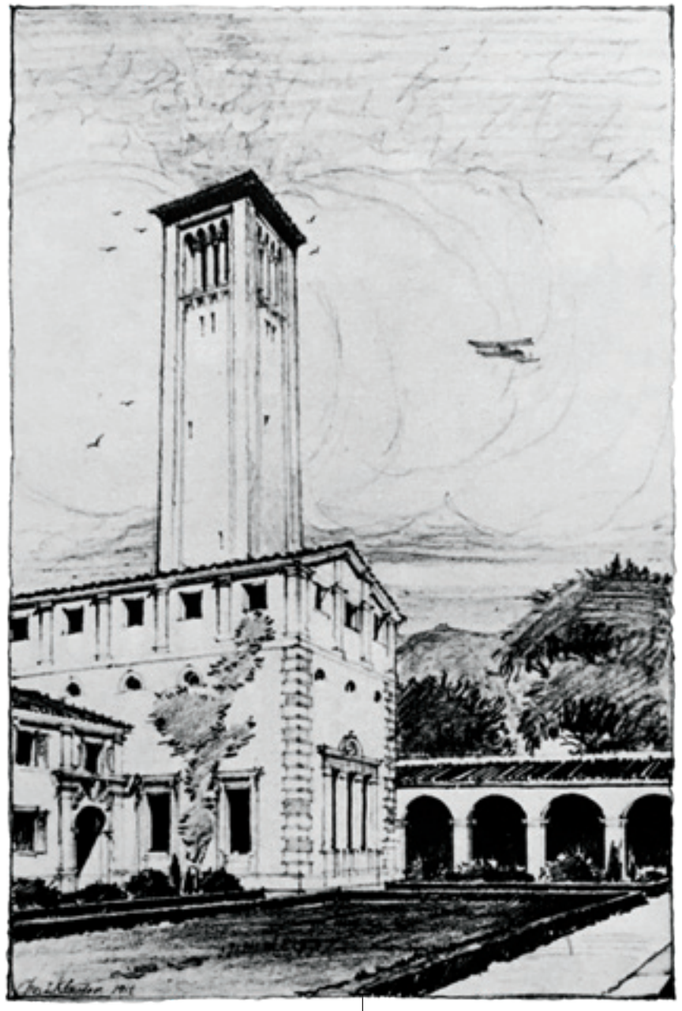
and heavy with mortar; and the jutting, hard edges created a strong shadow pattern on the wall. Roofs were gabled and barrel-tiled in a variety of planes, heights, and directions. Sloping end (hip) roofs were also evident, and small, vertical, chimney-like forms popped up at or near the ends of symmetrical forms. Ample windows were punched into the masonry walls and bordered in limestone. In at least one instance, to better meet a tight budget, ornamental steel (spandrel) panels were painted black to separate lower- and upper-floor windows. The rectilinear fenestration (window pattern) was relieved here and there, with arched openings for entries or balconies. These often were flanked by black, wrought-iron lanterns and topped with sculpted limestone cartouches (ornamental framed ovals). Klauder's building forms appeared long and low, always in human scale, hugging the earth, and with an infinitely variable roofscape. From the Liberal Arts building to his last sketches for the University Faculty Club in 1938, Charles Z. Klauder never wavered in his commitment to these basic design principles, or to his chosen palette of building materials.[19]

To his credit, the same scheme worked for classroom buildings, gymnasia, libraries, student centers, and residence halls. He was able to wrap a variety of internal functions with the new style, always maintaining his chosen vocabulary of forms and materials. Remarkably, Klauder was able to open Tuscan walls to natural light without disturbing the scale and overall architectural design. As a result, he created well-proportioned interior rooms full of Colorado sunshine.[20] Over the years, interior spaces have proven to be quite flexible. As much as half of the space in his buildings has changed in function that which was originally intended without any significant problems to the building interiors or occupants.

In the case of the Sewall and Baker residence halls, Klauder developed a central service-core of meeting rooms, offices, dining facilities, and service entries and entrance courtyards. On either end he fashioned a "U" of sleeping rooms on double-loaded corridors. The result might be compared to a pair of tuning forks joined at the handles. Other building forms were treated similarly in that the principal spaces were placed in the center core, while stairways and other secondary uses were positioned at the ends, either stepping down from the central building or rising above it in towers. The effect has often been compared to bookends. An excellent example is the Ketchum Engineering building completed in 1938.

The most exemplary piece of Klauder architecture is Women's Residence Hall, completed in 1934. It best typifies what Klauder thought the new campus style should be. It has a central core building with sleeping-room wings sprawling out from the center to form intimate interior courts. The front entry court is partially enclosed, with a curvilinear colonnade supported by columns on a raised porch and topped with a sloping barrel-tile roof. Other courtyards are partially enclosed with low masonry walls, partially paved with flagstones, flanked by stone staircases and black, wrought-iron handrails, and overlooked by wrought-iron railings on second-floor balconies.

Twin lions on pedestals are perched at the center of the sandstone wall in the south courtyard, each spitting a stream of water into a round pedestal dish set in a raised pool. The entire sculpture is carved in limestone. Within the courtyard, flagstone walks and various rose specimens are planted in a garden



Proposed sketch of Women's Residence Hall with tower and biplane

To be located at Broadway and University where the Koenig Alumni Center now stands, Klauder visualized his first tower on campus with an admiring pilot going by. The structure was never built, but eventually the women's dormitory (Sewall Hall) was constructed further east without a tower. ■



Women's Residence Hall, now Sewall Hall, 1934

Seen here in an early photo are the colonnaded, recessed, and arched front entrance that greeted female students. Architect Klauder designed this building at the height of his career. The magnificent entry courtyard, the delightful garden and lion fountain, and the student courtyard on the west side are all worthy places to see. Sewall Hall is considered to be Klauder's best example of the Tuscan Vernacular style. ■

dedicated to the first housing director, Bly Ewalt Curtis. Throughout the building, limestone trim executed in classical detail borders the red-colored sandstone. With multi-hued tile roofs topping the variegated red sandstone and all the limestone trim, the overall effect of red and white architecture was achieved in an expressive manner. Sewall Hall is an example of what can be done by the sensitive hand of a master architect.

Other admirable examples of Klauder's architecture include: the west front of the Men's Gymnasium, now Carlson; the Men's Residence Hall, now Baker Hall; the Liberal Arts building, now Hellems, and its east and west additions that enclose the Mary Rippon Outdoor Theatre; Norlin Library, with its colonnaded west front and, sadly, its now-enclosed east bay window;[21] the Memorial Student Union, now Economics, with its rusticated, arched entrances of beveled masonry and quions of large, limestone blocks; the Women's Club, now McKenna, overlooking Varsity Lake; and Klauder's last (and much-admired) effort, the University Club, with its northeast arcade and set of matching, curved stairs that lead to a courtyard.

A good understanding of this body of work is essential to those infilling new buildings on the Boulder campus. The "fit," or design relationship of the new with the existing, is a challenge to even the most skilled architect. For each project, concurrent site arranging and building sculpting take place in consultation with the campus architect and the University Design Review Board to reach a design consensus.



Memorial Student Union, now Economics, 1930

Dedicated as a memorial to the University of Colorado students who died in World War I, it became the center of life on campus in the 1930s. It contained the first on-campus cafeteria, a grand ballroom on the second floor, and other spaces for student activities. Its symmetry and form indicate its former public use. ■



Men's Gymnasium, now Carlson Gym, 1924

The monumental stairs and elaborate, three-arch entrance topped with cartouches on a symmetrical building design are aligned on an axis with Pleasant Street and Varsity Lake. It pronounces a very important place on a new campus equal to the main library, auditoria, and principle academic and science buildings. ■

Campus Building Materials Palette

Most architects give some consideration to the context of their surroundings when designing their buildings, and Klauder was no exception. The Boulder setting reminded him of the mountainous country in the Tuscan region of Italy, where the rural farmhouses and hilltop buildings were constructed with rough-cut stone indigenous to the area, and topped with red roofs made of clay tiles. Klauder saw similar varicolored sandstone in the local quarries of the Boulder-Lyons area, and he was able to easily import the roofing materials and limestone trim. For the first building (Hellems), he used trim that was locally quarried, buff-colored sandstone smoothed to look like limestone.[22]

Sandstone Walls

The Ingersoll Quarry was located off Left Hand Canyon Drive north of Boulder. It remained the University's primary quarry for many years. Other quarries were located along the Front Range from Boulder to north of Loveland. Some are still active today, while others have been abandoned. Sewall Hall, completed in 1934, used stone from the Ingersoll Quarry, which ceased operations shortly thereafter, and in 1962 became enclosed in a Boulder County open-space preserve.

Colors of stone used on campus buildings range from pink to dark red, blue, buff, brown, and colors streaked with iron oxide, called "stain face." Categories of colors are generally referred to by location: Lyons Red, Berthoud Pink, or Loveland Buff, because the color changes along Colorado's Front Range generally run from deep red in the south to almost white in the north. Stone for today's campus buildings is gathered from a variety of quarries to obtain the desired color mix. There are several active quarries between Lyons and Loveland, and stone is plentiful. Colorado sandstone is popular in California, and quarries export a sizable amount to masonry contractors throughout the West.[23]

The University judges stonework quality based on color, pattern, and cut. Stone colors for campus buildings consist of 70 percent red stone mixed with a somewhat equal balance of stone in neutral colors and stain face. Neutral colors are those that are not clearly white, buff, or pink. A common stone specification consists of 70 percent red, of which no more than 20 percent shall be stain face; 15 percent Berthoud (neutral), of which up to 100 percent shall be stain face; and 15 percent Masonville (Loveland) Buff, of which 100 percent shall be stain face. Light buff colors (when not stain face) are avoided because they tend to make a wall

Klauder's masterpiece (opposite page)

The Women's Residence Hall, now Sewall Hall, typifies the full range of building materials chosen by Klauder to form the new architecture for the University of Colorado: sandstone walls; red tile roofs; limestone window- and door-surrounds; black window sashes, doors, and railings; and carved limestone columns, statuaries, and other architectural elements. ■

Sandstone abounds (below)

A typical quarry north of Lyons contains layers of sandstone which meets the standards for University building walls. Thickness varies from 2 inches to 8 inches thick. ■





Keeping masons busy (above)

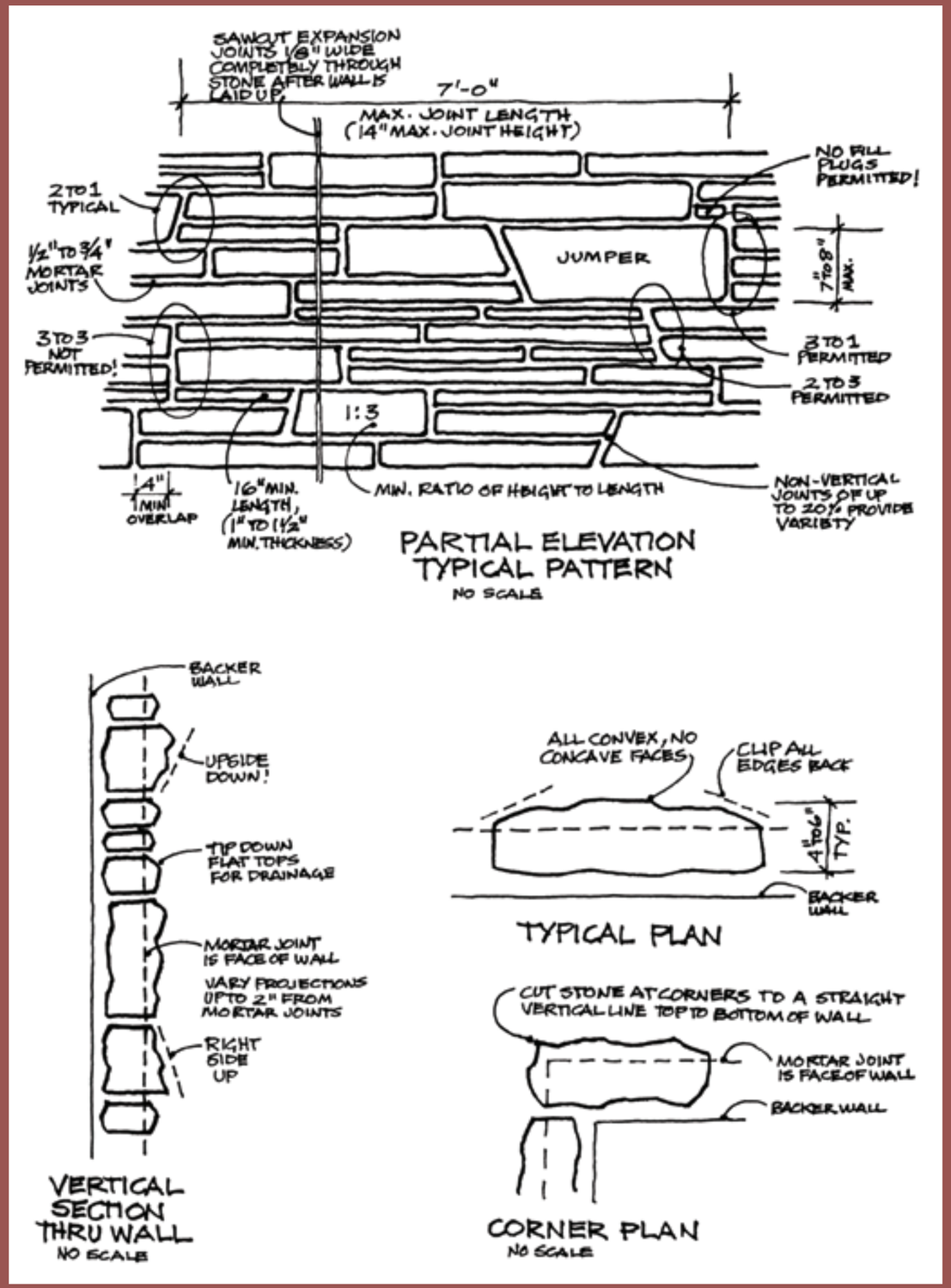
Masons working on the Men's Gymnasium, now Carlson, around 1924 take a break to have their picture taken. The stone they are laying came from the Ingersoll Quarry and included a deep, dark-red color that is no longer available. ■

Masonry graphic illustrating current specifications (opposite page)

The current rules for stonework patterns are illustrated, in part, by this sketch. The thickness and length of masonry units will determine the "weight" of a wall—whether it is light or heavy in appearance. ■

spotty with white accents. Deep, rich reds and good, clean buff colors are increasingly difficult to find. Consequently, some newer buildings are overall pinker than some older buildings, which appear more reddish.

A pattern incorporating large stones is more economical, but the maximum thicknesses of any one stone should not exceed 8 inches. (Refined stone walls can be found at the UMC and Chemistry buildings, which display a minimum thickness of 1 inch to a maximum thickness of 6 inches.) The minimum thickness-to-length ratio of the stone is 1:3, with no stone longer than 84 inches. Stone is split with a convex—never concave—face and set with a generous mortar joint that defines the face of the vertical wall. The mortar mix contains a small amount of dark buff to warm up the gray color. The fractured face of the masonry extends outward beyond the mortar joint as much as much as 2 inches in places, providing textural highlights and shadows to the wall surface. The thicker stones are referred to as "jumpers," and no more than three runs of stone may abut them. Fill "plugs" (small pieces) are not allowed. Vertical joints are random and offset at least 4 inches from the end of a stone, but several non-vertical joints are encouraged to give the wall variety. Outside corners are struck vertically at each course on a line from top to bottom.[24]





A sea of red roofs

Fascinating roof configurations are very much found in northern Italy. The never-ending red roofs of Tuscany are displayed in aerial photos in at least one coffee table book. ■

Anchors are placed 16 inches on center, both vertically and horizontally. Voids between the stone and the backup wall are filled with mortar. Expansion joints are sawcut at needed locations after the wall is laid up so the overall pattern of the wall remains undisturbed.

The best examples of quality masonry are found on buildings that also are exemplary in design: Sewall Hall, Chemistry, Henderson, and Baker Hall, to name a few. Some later buildings have also seen some excellent stonework: Crosman and Farrand Residence Halls, additions to Norlin Library, CIRES addition to Ekeley, the Dal Ward Athletic Center, and the Mathematics Building, for example. The large-scale stone pattern at the Engineering Center and the vertically laid stone at the Kittredge Residence Hall complex are anomalies. The Kittredge masonry was an attempt by the architectural consultant at that time, Pietro Belluschi, to provide a bold masonry statement more reminiscent of Tuscany. The Engineering Center infill masonry was a Belluschi recommendation to meet a tight budget, which proved to be the right decision. The Police and Parking Services Center on Regent Drive is a better example of infill masonry.

Tile Roofs

Campus roofing tile is specified as straight-barrel, mission tile of vitrified clay installed with covers laid over pans.[25] The range of colors used should vary from red to dark red to brown with a sprinkling of buff. The overall effect should be a series of red, mission-style roofs. For cost reasons, the valley pans are commonly smooth and a single, reddish color. The covers are always specified with a weathered finish. Recent buildings have deleted the buff accent tile because a satisfactory color in this range is no longer produced. Bird stops at open tile ends and snow guards are typically specified and installed. Flashing, gutters, and downspout details are peculiar to each roof design, and usually fabricated of heavy-gauge copper. Drainage water is carried down walls in exposed conduits, rather than behind the walls where maintenance is difficult. Heated tapes are strung along roof edges to reduce the chance of icicles and snow dropping onto walls below.

More than one-half million square feet of existing tile roofs are in place on the Boulder campus. A close visual inspection will reveal that color ranges vary from roof to roof. Earlier buildings have roofs lighter in hue than later buildings, probably because red-orange was more readily available then, clay firing techniques used by tile manufacturers have changed, and natural weathering diminishes hue intensity over the years. It is especially difficult to specify roof colors for additions to existing buildings so that both new and old roofs match or are harmonious.

Boulder campus roofs are Mission tile, as opposed to Spanish tile.[26] The latter was used at the Coors Events/Conference Center as a budget-cutting move; the result is judged to be unsatisfactory because it is out of character with other campus buildings, especially the adjacent Kittredge Residence Hall complex. Flat, overlapping French tile has been used on University buildings, such as the University Theatre and Dance additions, but never red and rarely seen on the main campus.[27] These French tiles have generally been concrete, rather than fired clay.

The barrel tile will lift in the occasional hurricane-force winds the Boulder Valley experiences, but it is impervious to all but the largest hailstones. Substantial breakage occurs if maintenance workers or sunbathers walk on it. Even with these hazards, the tile roofs are recognized as long lasting and low maintenance.

Limestone Trim

Campus buildings have been referred to as "red and white." This is not due to the red tile roofs, but because the "red" sandstone walls are trimmed with "white" limestone, or, in some cases, architectural and pre-cast concrete. Inset window and door openings are usually surrounded by white trim, and many other building forms are covered or outlined with limestone or concrete. Klauder used Indiana limestone almost from the beginning to trim windows, entrances, and building walls. He carved the material into a variety of classical details including arches, columns, quoins, cornices, cartouches, sculpted figures,



A fancy, framed entrance

A pattern of limestone blocks framing the Economics building entrance makes it special. Additional carved limestone trim around the door makes it extra-special. As a memorial to campus casualties of World War I, one street-side entry is carved "FIDES," the other "MEMORIA." ■



Details in the dark

Klauder often chose black to contrast with the "red and white" architecture. Most lamps (like the one pictured here) and doors, window sashes, shutters, balcony railings, and other decorative elements were fabricated from other material and often painted black. ■

benches, and other building details. In some cases, ground-floor stories in "white" complement upper floors in "red."

Indiana limestone is usually specified in a "sugar cube" finish because its color characteristics are compatible with sandstone. In recent years, project architects have used limestone trim and other details—including elaborately carved cartouches—on University buildings. A good example is the addition to, and renovation of, the University Theatre building. Architectural concrete, and particularly pre-cast concrete, is used extensively as a substitute for limestone. In recent years, the high quality of acid-etched, pre-cast concrete has led to its increased use for window surrounds, moldings, cornices, and coves. Nevertheless, limestone is the material of first choice.[28]

The trim on Klauder's first building, Liberal Arts (now Hellems) is not limestone, but sawed and sanded Masonville Buff sandstone. An earlier Colorado architect, George W. Rowe, had the same idea. The foundation walls of the 1902 Buckingham Library, now University Theatre, are veined with a dark, iron-oxide color that is more characteristic of sandstone than limestone.

Black Accent Materials

Doors, door frames, window frames, and wrought-iron details on campus buildings are all black, as an accent to the red and white palette of other materials. Again, this design decision by Klauder seems to be consistent with the character of the old buildings he saw in Tuscany. Other elements of this design scheme, such as path surfaces, lighting, signage, statuary, etc., are also consistent with the Tuscan color scheme of reddish pink; creamy white; and deep, warm black—all set in a verdant landscape.

The full range of Klauder's materials choices can be seen: laid up, fractured-face sandstone walls capped with red-tile roofs, limestone columns and loggia fronting an interior court lined with black-sashed windows each wrapped in limestone, wrought-iron balcony railings, flagstone walks, and a south courtyard guarded by two lion fountains carved from limestone.

In later years, several sculptured art pieces have been installed on the Boulder campus. Some have successfully complemented the architecture and landscape, and some have not. The materials used have included bronze, wood, and stone. The most successful sculptured pieces have been those that have adhered to the traditional palette of materials and original color scheme.[29]

Uniformity vs. Conformity

By definition, a campus is a collection of interrelated buildings and supporting facilities arranged in and around open space. Site selection, planning, and development are vital to the success of each new building on the Boulder campus. Even more important is the successful integration



of the new site with surrounding uses. The challenge to the designer is to think campus-wide, not just site-specific. Thinking in the Tuscan Vernacular style should yield a unique landscape architecture, where plant landscaping and site facilities combine to complement the campus as a whole, and the site architecture in particular.

Regarding new building design, the University does not advocate the replication of Klauder's original buildings; however, the University is dedicated to the continuing evolution of Klauder's design concepts. This can best be achieved by reflecting the principles of the Tuscan Vernacular style in a contextual manner modified to suit the program at hand. Through the efforts of many campus administrators, campus architects, project architects, and design review advisors, the past 100 years have seen more success than failure in meeting this goal.[30]

Cloning Klauder's designs was attempted after his death in 1938 with less and less success. In 1963, a new direction was established that reflected the spirit of his work, yet provided flexibility to accommodate new directions. For example, the Engineering complex design conforms to its programs within—and the campus as a whole—with its sloping red tile roofs, walled landscaped courtyards, bubbling fountains, and light-filled interior spaces. It proclaims to be a member of the Italianate family without being a mechanical uniform copy. Each campus building contributes differently, but equally, to maintain the University of Colorado's respected architectural reputation.

A new spirit of the old

The Engineering Sciences Center, now Engineering Center, was completed in 1965 and took Klauder's original design concept in bold, new directions. According to Professor of Architecture Cal Briggs, who advised the Board of Regents, the building's unique design remains in the spirit of the old, established style. ■

Employing the Tuscan Vernacular Architecture

Architect Klauder's inventive architectural style for the Colorado setting has endured. He promised a new, unique, and uniform design for the Boulder campus unlike any other in the nation and his promise has been fulfilled beyond expectations. Successive University presidents, their architects, campus officials, and all others walking in Klauder's footsteps have endorsed his design for the past 100 years and counting. Demand has been consistent from students, faculty, staff, alumni, and citizens of Colorado for the continuation of Klauder's stylistic campus.

Sustaining the Unique Architecture

Post-Klauder architects were awarded contracts with the expectation that their designs would follow Klauder's work; that is, to reflect the style of the fifteen buildings he designed before his death. The process to manage this result has worked remarkably as well.[31]

The previous *Body & Soul* book has been used often since its publication in 1994 as a guideline for incoming architects to get in step with requirements for their new project. Such information is useful, but it's not the only reason to open this book. Overall, it is meant to explain why this most admired architecture (body), continues to further the "campus beautiful" as a university in a park, and to frame the academic offerings (soul) situated there.

Specific, set procedures and requirements for incoming architects and planners are readily available through the office of the Boulder Campus Architect at Facilities Management.

Function and Form

Over the years, buildings on the Boulder campus have included a variety of functions unforeseen in Klauder's time. These include multi-level automobile parking garages, sophisticated research laboratories, computing operations, and major athletic stadium additions for expanded seating, training, locker rooms and other accompanying facilities. Each of these functions has been clothed in a homogeneous architectural wrap to fit the Boulder campus standards adopted so long ago.

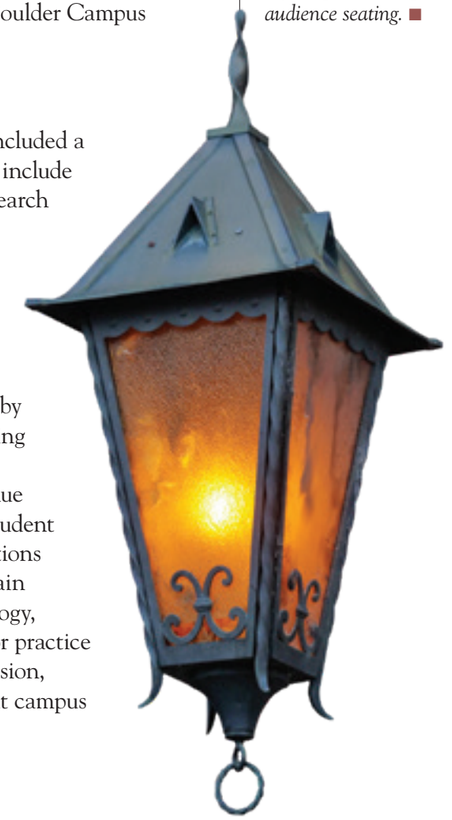
The Regent Drive auto park has stair towers capped by tiled shed roofs on each corner, and the Police and Parking Services Center, designed in the campus architectural style, masks the open spans of parking. The Euclid Avenue underground parking is now tapped with a three-story student services building. The CIRES and JILA, and MCDB additions are reminiscent of the Klauder style; however, they contain sophisticated, leading-edge programs such as spatial ecology, atomic physics, and molecular genetics. A massive indoor practice gymnasium sits next to the new Stadium building expansion, proving that threads of design continuity run throughout campus structures no matter what functions are housed there.

Stairway to heaven (opposite page)

Charles Z. Klauder died in October 1938 while completing drawings for the University Faculty Club, now University Club. On the campus side, its matching curved staircases flow up to a courtyard bordered by arcaded passageways. Hotel windows, originally shuttered, look down on the outdoor space. Situated on the campus edge, it sits as an entry building to the Boulder campus and, as such, represents one of Klauder's best designs. ■

Lighting the way

At the rear entrance to the Mary Rippon Outdoor Theatre, a befitting lantern lights the way to audience seating. ■





Buildings change for accessibility

A silo-like form is built to connect two dissimilar buildings.

From asphalt parking spaces to real brick pavers, the buffalo sculpture known as "Monarch of the Plains" watches over a pedestrian plaza that was once filled with parked cars (below). ■



Proper form and function have been ignored at times when significant alterations or additions to existing buildings have become necessary.[32] For example, a beautiful, original, two-story bay window on the east side of Norlin Library once overlooked a sunny, green lawn, but it was hidden behind the 1977 addition of an internal reading room. Similarly, the Imig Music building once contained an open balcony and windows on the west side that were later covered with a blank wall. And the Koebel Business building addition included a dome that is inconsistent with Tuscan architecture. Good additions that are more consistent with the existing architecture include those to the east side of the Engineering Center for the ITLL and Discovery Learning Centers, the Biochemstry addition to Chemistry, and the major addition to UMC and the adjacent Trumbo Fountain Court.

Generally, the Tuscan Vernacular style remains a good neighbor to the building of the pre-Klauder era, although Klauder had his doubts about such compatibility in 1919.

One good example of how pre-Klauder and Klauder styles can be blended is the careful connection of the 2000 Eaton Humanities with its next-door neighbor, 1890 Woodbury Arts and Sciences. Some solutions to this issue in other places have been both glass boxes, or discrete blank boxes, both inappropriate to a project in the Norlin Quadrangle historic district. Here were two buildings with 110 years difference in age only 30 feet apart and both aligned south. The solution was a round, silo-like form connection faced with neutral-color sandstone and floor levels matching the older building. The elevator in the new building provides level accessibility to all floors in the old 1890 building. Formerly inaccessible programs in a historic building now meet the requirements of the Americans with Disabilities Act.[33]

The Field House plaza illustrates one of several infill strategies necessary to mitigate development squeezed in and around building footprints, which are to be preserved and expanded whenever possible. With every future project, additional floor space must be found by inserting floors in high-bay spaces, going further underground, constructing space over walks and drives, and providing the means in new construction to add more floors. Open space should be preserved with the creation of plazas and courtyards associated with new development.

The Boulder campus has a diminishing number of building sites and, as the years go by, it is becoming increasingly difficult to expand the campus into adjacent city neighborhoods and business districts because developable land is becoming increasingly scarce and expensive.

The East campus, less than a half-mile away, has many opportunities for expansion of research, housing, and academic facilities. The campus area north of Boulder Creek has potential for expansion, but the entire area is in the 100-year flood plain. The Williams Village campus is located about the same distance away as the East campus; it is zoned exclusively for student housing and recreation uses. A 308-acre South campus located south of U.S. Highway 36 at 28th Street is land kept in reserve for future use.



The human touch

What better than a heart-shaped cartouche on a humanities building? From its corner perch it looks down on people coming and going. ■

Why materials matter

Sometimes it seems attention to the Tuscan Vernacular design can wander. In 1954, Fleming Hall, now Cheyenne Arapaho Hall, was constructed to options that reflected costs and materials at hand. Brick for sandstone, bare aluminum for black steel, and poorly planned handling of functions at this service point are clearly evident. ■



Design Ideals

A continuum of buildings in the Tuscan Vernacular has been carried forward ever since 1921—an incredible length of time to keep the style strong and valued. Most building sites have been in response to the 1919 Day and Klauder development plan, and subsequent campus master plans have mostly embraced the same concepts.[34] Each new building has been designed to reflect a family resemblance in form and materials.

Building forms have occasionally been a little out of character with the style, and substitutions or lack of the standard materials palette have occurred. Some examples have included incongruous elements; aluminum storefront trim; substitutions of brick for sandstone and concrete for limestone; and questionable sandstone veneer.[35] In response, some descriptive guidelines have been prepared for incoming architects, but never detailed prescriptive requirements for design or materials. The final results of new development rarely include major missteps.

The site for each new building is not limited to its footprint parameters, like those confined by adjacent streets and building lot lines outside the campus. Instead, each site is unlimited and free to relate to its neighbors in a sympathetic way in terms of form, size, height and use. The adjacent open space is managed to accommodate desired access and view corridors.

Klauder's architectural design is quite adaptable to all purposes and functions including academics, research, recreation, housing, entertainment, athletics, parking, and most others.

The Boulder campus is known and admired for its uniform architectural style and building materials palette. Sandstone walls, red tile roofs, limestone trim, and black, wrought-iron accents are set in a verdant landscape against an impressive mountain backdrop providing an appealing sense of stability and perpetuity. When viewed in aggregate, the campus is reminiscent of hill towns around Florence and Sienna and the climate of the 40th degree parallel, which runs along Baseline road in Boulder and through Spain, Italy, Greece, Turkey, and China.

Remarkably, the distinctive building style set among a variety of open spaces has endured despite pressure from contemporary building styles and differing ideas from architects and others through the years.

A mismatch of hat and attire?

A tower with a lid on top seems to be an anomaly. Towers in Tuscany are topped with much more care to better reflect the design features of the building beneath it. ■



Future Aspirations

In the last twenty-three years since the original *Body & Soul* book was published, fourteen new major building projects were completed on the Boulder campus.[36] During that time, these new buildings accommodated a 27 percent increase in enrollment, from 24,500 to 33,200 students. All were done, to a great degree, in the Tuscan Vernacular style, placed in the proper setting, and programmed successfully to accommodate the academic programs within.

With this record of achievement, CU Boulder has no plans to be complacent. Every physical change to the campus floor or to campus buildings will continue to be scrutinized for adherence to the high standards set by the Board of Regents, President Norlin, Architect Klauder, and their successors through the years. The University Design Review Board and the Campus Architect will continue to guard this splendid body that, in turn, nurtures the academic soul; and the faculty, students, staff, alumni and citizens of Boulder and Colorado will be watching.

A splendid addition to JILA (below)

A laboratory building to house research in astrophysics nestles under a Flatirons sandstone formation. ■

A successful example of the Tuscan Vernacular Style (opposite page)

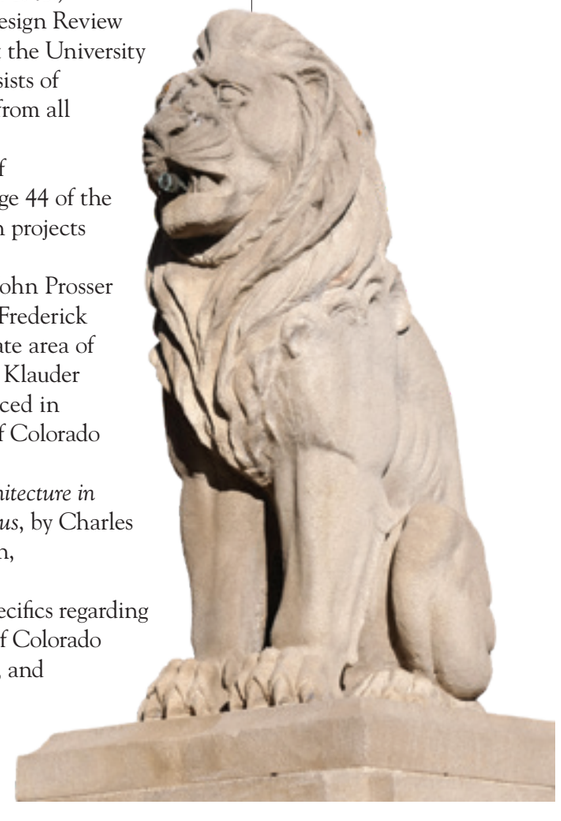
The entrance courtyard to the Wolf Law School displays a plethora of architectural detail to warrant approvals. ■





Endnotes

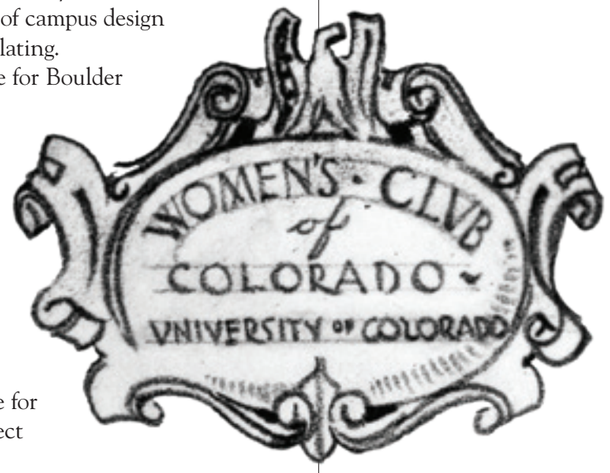
1. The analogy of "body and soul" in reference to higher education facilities and academic programs was first used by Thomas Jefferson when describing his University of Virginia campus. George Norlin (1871–1942), the fifth president of the University of Colorado, made use of it again in 1939 to explain how the exterior "body" frames the interior University "soul" at his campus in Boulder, Colorado.
2. The location for the State University was determined only after long deliberations between 1861 and 1875. The tale of two cities vying for the State Prison versus the State University, and the final "midnight ride" of Captain David Nichols that sealed the location as Boulder rather than Canon City, is well told in *Glory Colorado! A History of the University of Colorado* 1858–1963 by William E. Davis. The donation of land and raising the necessary $15,000 to construct the University building (Old Main) is also told in *Glory Colorado.*
3. In 1917, the acting President of the University (in the absence of President Livingston Farrand, who was away in military service) commented that the appearance of the campus did not suit his notion of either beauty or wisdom. In 1939, he looked back on his early days on campus commenting that it was "bleak and barren and forbidding—a few stark buildings on a bit of wasteland."
4. Much credit must be given to George Norlin and his architect, Charles Z. Klauder. for their efforts in 1917 and 1918 to establish the "campus beautiful" that we see today.
5. This number is for the Fall semester of 2016. The population of enrolled students are not all accommodated on the Main campus, but some in outlying campus locations, principally the East campus.
6. Three prominent citizens of Boulder donated the first fifty-one acres that initiated the campus of the new State University: George Asa Andrews, Marinus G. Smith, and Anthony Arnett are responsible for the present campus area bounded by University Avenue, Broadway, Euclid, and an eastern boundary just beyond the University Memorial Center.
7. As noted in *Glory Colorado*, "the Main building was completed the 18th of April, 1876, and fit the description written by an early grad as 'an imposing structure . . . its head above a barren and windswept plain . . . a monument of patience, looking down upon the frontier village . . . removed from any sidewalk by nearly a mile of mud.'" The building was heated with wood-burning stoves piped to chimneys that rose above the roof. Today, those chimneys are used to circulate air from the open windows into the rooms, through decorative grilles into the chimney stacks and upward to the outside.
8. Charles Z. Klauder designed dormitories at Princeton in English Collegiate Gothic style, and similar buildings at Wellesley College and the University of Pennsylvania. The Cathedral of Learning, a magnificent tower at the University of Pittsburgh, is an example of his dexterity and skill in executing other architectural styles. He is better known nationally for this portfolio of collegiate work than his original and unique Colorado design.
9. According to Joan Draper, a professor of architectural history at CU Boulder in the 1990s, Klauder's "University of Colorado Style" should be characterized as "Italian Tuscan Revival."
10. The University of Colorado work by Charles Z. Klauder listed on page 8 includes one of his designs built after his death in 1938. He was the principal architect for these buildings, but used associate architect G.H. Huntington of Boulder, Temple Buell of Denver, and others to assist with on-site details and inspection of the work.
11. The last Trautwein & Howard buildings included Wardenburg Health Center in 1959 and the Astro-Geophysics Building, now Speech Language and Hearing Sciences, completed in 1960. Both are poor examples of the Tuscan Vernacular style.
12. In 1959, CU's director of budgets and planning, John W. Bartram, participated in a seminar on campus planning at MIT. He was most impressed by the presentation of Hideo Sasaki, then chair of the Landscape Department in the Harvard Graduate School of Design and head of the firm of Sasaki, Walker and Associates. He invited Sasaki and his director of planning, Richard P. Dober, to the Boulder campus to learn more. They observed what needed to be done to expand the Boulder campus and the confidence of University officers. In anticipation that a major change in design procedures could emerge, Sasaki recommended that Pietro Belluschi, dean of architecture at MIT, be invited to serve as the University's architectural consultant. (The foregoing historical events were provided by Thomas R. Mason, who was involved with budgets and planning on the Boulder campus between 1959 and 1975.)
13. Only the University of Washington has an older Design Review Board than the one that followed four years later at the University of Colorado. Originally four members, today it consists of multiple members representing faculty and/or staff from all four campuses and local practicing architects.
14. A list of Boulder campus buildings, with the date of completion and project architect, is provided on page 44 of the Appendix, starting with Old Main and ending with projects current at the time this book was published.
15. While researching a project at Colorado College, John Prosser unearthed two sketches of the Boulder campus by Frederick Law Olmsted. His plan was limited to the immediate area of what is now Norlin Quadrangle. It is not known if Klauder was aware of Olmsted's plan. Copies have been placed in the Special Collections and Archives, University of Colorado Boulder Libraries.
16. He co-authored a book on this subject, *College Architecture in America and its Part in the Development of the Campus*, by Charles Z. Klauder and Herbert C. Wise, New York, London, C. Scribners Sons, 1929.
17. At one point, President Norlin asked Klauder for specifics regarding a location in Tuscany that inspired the University of Colorado style. Klauder replied in a letter dated June 28, 1938, and enclosed a photograph taken forty years earlier in Fiesole, Italy.



Regal protectors

At the center of the stone wall on the south front of the Women's Residence Hall, now Sewall Hall, a fanciful lion and his twin on the other side spit a stream of water into a basin. ■

18. Klauder's ability to do free-hand pencil sketches for proposed buildings rapidly and expertly was a special skill since his teens. This ability earned him a place in prominent architects' offices where he absorbed enough knowledge about the practice of architecture to enter a successful partnership.
19. A sole exception was the wing to Buckingham Library, now University Theatre, constructed in 1923 as a stacks wing. It was not designed according to the drawing left by George W. Rowe of Pueblo, the architect of the 1903 original building, nor was it designed in the new Klauder style, but curiously configured something like Frank Lloyd Wright buildings that were going up around that time.
20. Klauder did not pay particular attention to interior design, but some significant space within some buildings was created. A large music room with flanking fireplaces is located on the fifth floor of Norlin Library overlooking the quadrangle. The space remains largely unchanged.
21. A great room with a carved limestone fireplace mantle located in McKenna, and a large ballroom at the Student Union, now Economics, are examples of space that have been remodeled out of existence. The great bay window on the east front of Norlin Library was a campus landmark that was obliterated by an insensitive 1975 addition.
22. Tested in 1994, it turns out that the "limestone" trim on Klauder's first Liberal Arts building, now Hellems, is indeed white sandstone quarried in Pueblo. The 1938 wings are trimmed in Indiana limestone.
23. Stone for University of Colorado use is mined at various front range quarries. Some are active and some are not. Locations are from north of Boulder to south of Loveland. A survey of quarry names, locations, status, maps, and details was completed October 15, 2008, by the Office of the Campus Architect.
24. The graphics included on page 23 are used to explain unique campus masonry standards. Checked for accuracy by Chuck Tribble, a past University stone consultant, it is now used by all stone masons as the standard pattern for University sandstone walls. According to Tribble, patterns on the Boulder campus are entirely unique. He can cite at least six different patterns. The most different are the Engineering Center, where oversized stones were laid up with oversized mortar joints, and the Kittredge Housing complex, where sandstone was laid on edge (rather than flat) in an attempt to simulate some buildings in Tuscany. Other changes occur when stone thickness is modified to create a light or heavy appearance.
25. Mission-style fired clay tile are 14- to 18-inches long, formed like a half cylinder, slightly tapered lengthwise, and laid with the convex covers over the open breaks in the concave half cylinder pans laid flat on the roof to produce a barrel tile roof. The tile covers are fired with different colors and textures. The under-tile pans are a little larger and all the same color.
26. Spanish tile is a convex clay form with a flat side panel that is overlapped by the convex portion of the adjacent tile. The overall look is like that of pan roll tile roofing, or some would say a poor imitation of barrel style roofing.
27. French tile is a flat, corrugated tile about 9 inches by 16 inches with interlocking side joints. None can be found on campus.
28. Whether sandstone, limestone, or concrete is used, Klauder's designs are trimmed in white as contrast to the pink stone and red tile roofs. Ground levels and foundation walls are typically white.
29. Professor C.A. Briggs, in his 1962 "Report on University of Colorado Architecture to Office of Planning," advocated sculpture be used to complement the campus architecture. He found this to be consistent with what he saw in rural Tuscany, where he was sent by the Board of Regents to assist in evaluating the direction of campus design that Sasaki and Belluschi were just contemplating.
30. A list of architects and planners responsible for Boulder campus building projects is provided on pages 44-46. Each partnered during this time with campus officials to ensure their goals were realized.
31. This new architect selection process got its start in 1964. It has worked mostly well to provide a more diverse approach to campus design principles. If located out of Colorado, the architect must partner with a local architect to complete the project. Usually, the external architect is responsible for design, and the internal architect with project drawings and oversight of construction.
32. Debate can occur between opinionated national and local architects regarding design decisions. Examples are provided in the text.
33. Significant examples of newly created open space development include the plaza east of Gold Biosciences (MCD Biology) from a parking lot to a new plaza serving Folsom Field events, a section of 24th Street south of Colorado to a park, and a newly landscaped "Buff Mall" from the grand entry steps on the north, to Colorado Avenue on the south between practice facilities and the stadium.
34. Other Master Plans were prepared in 1963, 1975, 1990, and 2001. Other, less comprehensive master planning activities have occurred over the years in response to building development for commissioned studies related to land planning, traffic circulation, open space, and others.
35. One example is the south entrance elevation at the 1954 Fleming Hall, now Cheyenne Arapaho Hall, where several building materials violations are apparent.
36. A significant number of these projects were designed by out-of-state architects for their expertise with similar projects in other states, and in partnership with local architectural firms who qualify for Colorado selection. This arrangement has proved to be marginally successful, requiring close attention to the proper stylistic fit here in Boulder, not where the design architects come from. Two excellent examples are an addition to JILA and the new Wolf Law School.

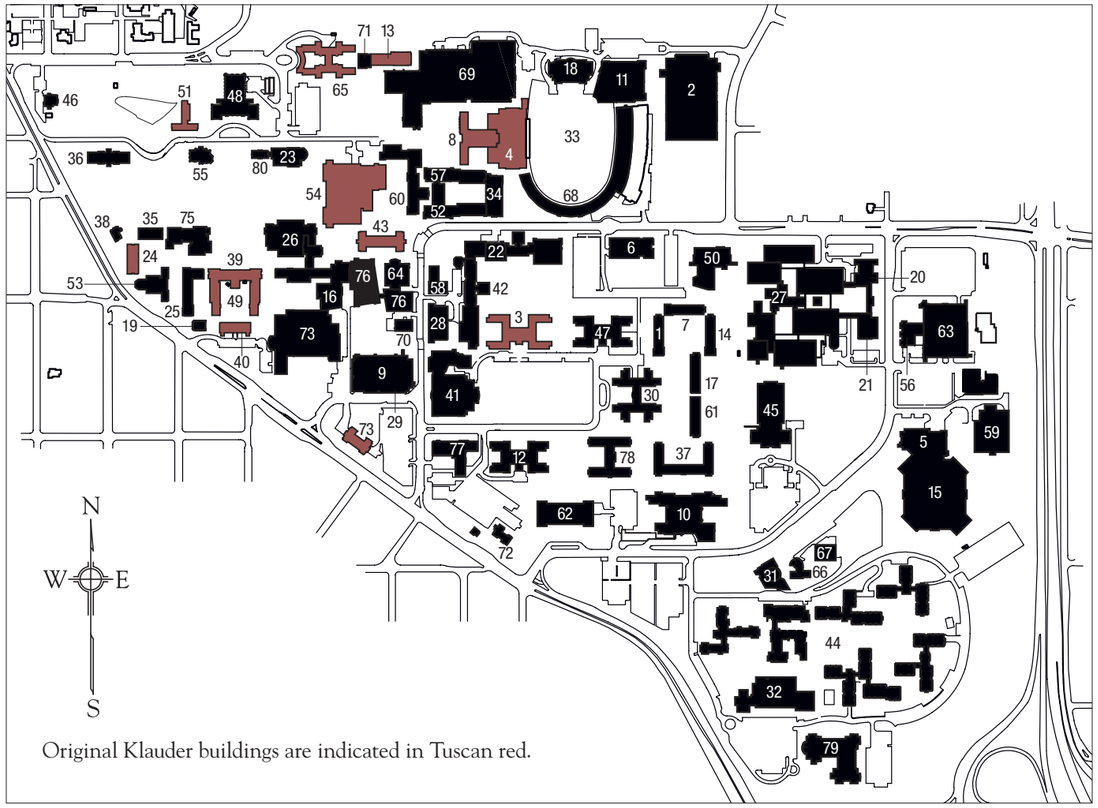


A Badge of Acclaim

Klauder loved to sketch proposed future buildings in imaginative settings. The Women's Club, now McKenna Languages, included varsity lake right up to the front door, a vertical grove of cypress trees reflected in the water, and, in this case, a decorative badge of honor to identify his subject. What fun! ■

Appendix

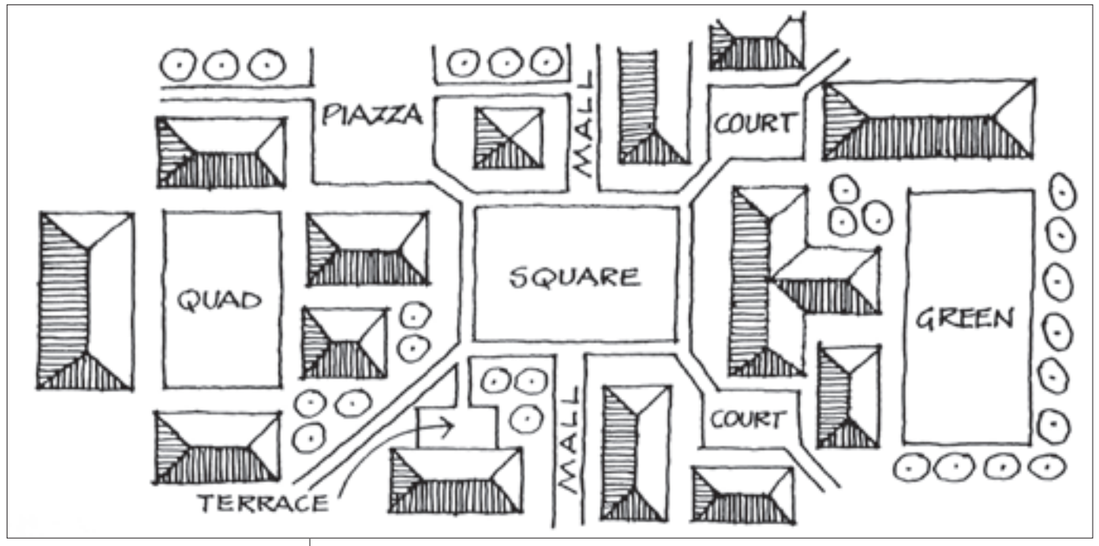
Campus Map

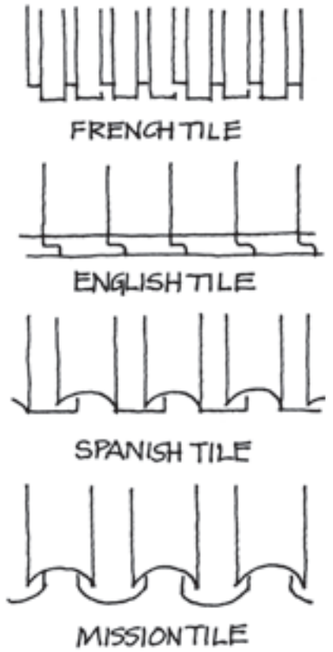


Original Klauder buildings are indicated in Tuscan red.

1. Aden Hall
2. Athletics Practice Facility
3. **Baker Hall**
4. **Balch Fieldhouse**
5. Basketball/Volleyball Practice
6. Benson Earth Sciences
7. Brackett Hall
8. **Carlson Gymnasium**
9. CASE Center
10. Center for Community (C4C)
11. Champions Center
12. Cheyenne Arapaho Hall
13. **Clare Small A&S**
14. Cockerell Hall
15. Coors Events/Conference Center
16. **Cristol Chemistry wings**
17. Crosman Hall
18. Dal Ward Athletic Center
19. Denison A&S
20. Discovery Learning Center
21. Drescher ITLL
22. Duane Physical Laboratories
23. Eaton Humanities
24. **Economics**
25. Education
26. Ekeley Sciences
27. Engineering Center
28. Environmental Design
29. Euclid Avenue Autopark
30. Farrand Hall
31. Fiske Planetarium
32. Fleming
33. Folsom Field
34. Gold Biosciences (MCDB)
35. Guggenheim Geography
36. Hale Science
37. Hallett Hall
38. Hazel Gates Woodruff Cottage
39. **Hellems A&S (wings added in 1938)**
40. **Henderson (Natural History Museum)**
41. Imig Music
42. JILA
43. **Ketchum A&S**
44. Kittredge Complex
45. Koelbel Business
46. Koenig Alumni Center
47. Libby Hall
48. Macky Auditorium
49. Mary Rippon Outdoor Theatre
50. Mathematics
51. **McKenna Languages**
52. Muenzinger Psychology
53. Museum Collections (Bruce M. Curtis)
54. **Norlin Library**
55. Old Main
56. Police and Parking Services
57. Porter Biosciences
58. Power House
59. Power Plant
60. Ramaley Biology
61. Reed Hall
62. Regent Administrative Center
63. Regent Drive Autopark
64. Roser ATLAS Center
65. **Sewall Hall**
66. Sommers Bausch Observatory
67. Speech, Language, Hearing Center
68. Stadium
69. Student Recreation Center
70. Technology Learning Center
71. Temporary Building No. 1 (TB-1)
72. University Administrative Center
73. **University Club**
74. University Memorial Center (UMC)
75. University Theatre and Irey Dance
76. Visual Arts Center and CU Art Museum
77. Wardenburg Student Health Center
78. Willard Hall
79. Wolf Law
80. Woodbury A&S

Open Space and Architectural Definitions





Passage(way)
An enclosed or semi-enclosed corridor or other means of circulation between different areas of a building. (Stadium vomitories, UMC, and most building corridors)

Colonnade
A series of columns supporting a roof beam or entablature. A double row of columns bordering a walk or passageway. (Mathematics building)

Loggia
A passageway colonnaded on one or both sides. (Duane Physics, Mathematics, LASP, Regent Administrative Center [south])

Arcade
A series of arches with their supports. A passageway, one side of which is a series of arches supporting a roof. (UMC at Dalton Trumbo Court, McKenna)

Cloister
A covered passageway bordering a courtyard, usually having one walled side, and the other side open as a colonnade or arcade. The courtyard and its passage. (Dalton Trumbo Court, University Club)

Gallery
A roofed passageway above grade projecting from an exterior wall. (CIRES atrium, Engineering Center, Kittredge Residence Halls, Ramaley Biology, Recreation Center)

Portico/Porch
A covered entry. (Norlin, Regent, Baker, Libby, Carlson, Hale, Guggenheim, and others)

Mission Tile
Clay tile, 14- to 18-inches long, curved to the arc of a circle, slightly tapered lengthwise, laid alternately with the convex side up, flanked by units with the concave side up. Roofing tiles shaped like a half-cylinder, slightly wider at one end than the other. The over-tile and under-tile are of roughly the same shape, the under-tile being larger.

Spanish Tile
A convex clay tile with a flat side that, in turn, is overlapped by the convex portion of the adjacent tile. The overall look is not unlike that of pan and roll tile roofing.

Pan and Roll Tile
Flat pans with a raised edge placed side-by-side, with half cylinders of tile placed over the raised edges.

French Tile
Clay interlocking tiles. Flat, corrugated tile, about 9 inches by 16 inches, with flush interlocking side joints.

English Tile
A clay tile with sides that overlap within its thickness so that both the visible and the hidden surfaces of the tile are smooth.

Quadrangle
An area surrounded on all sides by buildings. (Norlin Quadrangle)

Piazza (Italian) Plaza (Spanish)
A public, open space for people. (JILA, Norlin [east], Mathematics, Engineering Center, Regent, Fieldhouse)

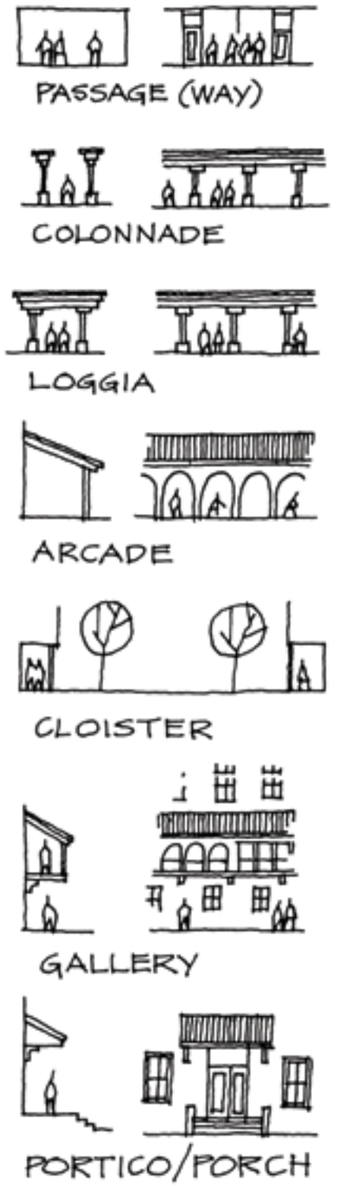
Square
A large, open area bounded by buildings, streets, or the area at the intersection of several streets. (18th and Colorado streets)

Court(yard), Cortile (Italian), Patio (Spanish)
A small outdoor space, partly or entirely enclosed by buildings or other means of enclosure. (Hawthorne, Dalton Trumbo, Sewall, Education, Engineering, etc.)

Terrace
A level space raised above the surrounding area, usually flanked by a building. (UMC, LASP, Macky)

Greensward, Green, Field
A large, open, grassy area used for formal or informal play. (Franklin, Farrand, Kittredge, Business, Duane, etc.)

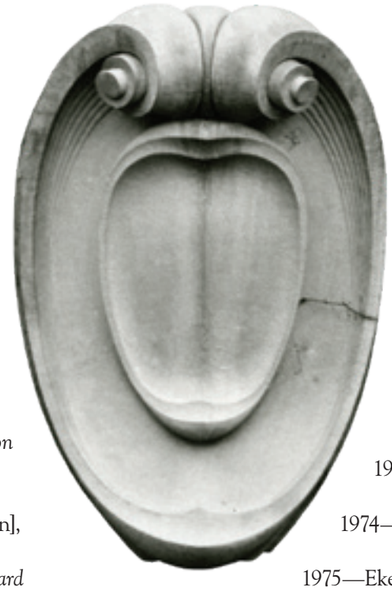
Mall
A shaded walk for promenade by pedestrians, sometimes jointly used by bicycles, public transit, and/or service vehicles. (Engineering, prexy walk, Pleasant Street, “Engine Alley”)



Chronological List of Major Buildings and Responsible Architects

Whenever possible, the date listed is intended to represent the completion, dedication, and/or occupancy of a building. If the name of a building has changed, the current name is indicated in brackets. Other explanatory information is indicated in parentheses. Every attempt has been made to indicate the principal architect of record, the location of the firm, and associated firms (local affiliates). Renovations and small development projects are not listed.

1876—Main [Old Main], *E.H. Dimick (Boulder)*
1880—President's Residence [Koenig Alumni Center], *Earnest Varian*
1885—Cottage No. 1, *Unknown*
1890, 1907—Chemistry [Center Ekeley] (demolished 1970), *Earnest Varian*
1890—Woodbury Hall [Woodbury Arts and Sciences], *F.A. Hale (Denver)*
1894—Hale Scientific [Hale Science], *Varian & Sterner (Denver)*
1898—University Hospital [TB-01], *Earnest Varian*
1903—Buckingham Library [University Theatre], *George W. Rowe (Pueblo)*
1908—Engineering Shops [Hunter Sciences] (demolished 2002), *Gove &Walsh (Denver)*
1908—Guggenheim Law [Guggenheim Geography], *Murdock*
1908—Engineering Shops [Hunter Sciences] (demolished 2002), *Gove & Walsh (Denver)*
1910–1922—Macky Auditorium, *Gove & Walsh (Denver)*
1910—Hale Additions [East and West Wings], *Gove & Walsh (Denver)*
1910—Heating Plant [Power House], *Gove & Walsh (Denver)*
1911—Science and Museum [Geology, Bruce Curtis Building], *Gove & Walsh (Denver)*
1914—Denison Science [Denison Arts and Sciences], *J.B. Benedict (Denver)*
1918—Engineering Shops I [Sibell Wolle Fine Arts] (demolished 2008), *Unknown*
1921—Liberal Arts [Hellems Arts and Sciences], *Day & Klauder (Philadelphia)*
1923—Buckingham Library Wing [University Theatre], *Charles Z. Klauder (Philadelphia)*
1924—Men's Gymnasium [Carlson Gymnasium], *Charles Z. Klauder (Philadelphia)*
1924—University Stadium [Folsom Field], *Waldo E. Brockway*
1926—Ekeley East and West Wing Additions, *Charles Z. Klauder (Philadelphia)*
1928—Women's Gymnasium [Clare Small Arts and Sciences], *Charles Z. Klauder (Philadelphia)*
1930—Memorial Student Union [Economics], *Charles Z. Klauder (Philadelphia)*
1934—Women's Residence Hall [Sewall Hall], *Charles Z. Klauder (Philadelphia), DeMordaunt (Pueblo)*
1936—Field House [Balch Field House], *Charles Z. Klauder (Philadelphia), G.H. Huntington (Boulder)*
1937—Men's Residence Hall [Baker Hall], *Charles Z. Klauder, (Philadelphia), G.H. Huntington (Boulder)*
1937—Natural History Museum [Henderson], *Charles Z. Klauder (Philadelphia), G.H. Huntington (Boulder)*
1937—Women's Club [McKenna Languages], *Charles Z. Klauder (Philadelphia), G.H. Huntington (Boulder)*
1938—Hellems Wings, *Charles Z. Klauder (Philadelphia), G.H. Huntington (Boulder)*
1938—Ketchum Engineering [Ketchum Arts and Sciences], *Charles Z. Klauder (Philadelphia), G.H. Huntington (Boulder)*
1939—Norlin Library, *Charles Z. Klauder (Philadelphia), T.H. Buell (Denver)*
1939—University Faculty Club [University Club], *Charles Z. Klauder (Philadelphia), G.H. Huntington (Boulder)*
1940—Buckingham Library Conversion [University Theatre], *G.H. Huntington (Boulder)*
1947—Aden, Brackett, and Cockerell Halls, *Trautwein & Howard (Philadelphia), T.H. Buell (Denver)*
1947—McKenna Addition (*Charles Z. Klauder documents), Trautwein & Howard (Philadelphia), Jones & Hunter, (Boulder)*
1947—Reed and Crosman Halls, *Trautwein & Howard (Philadelphia), T.H. Buell (Denver)*
1948—Farrand Hall, *Trautwein & Howard (Philadelphia), T.H. Buell (Denver)*
1948—Service Center [Environmental Design], *Trautwein & Howard (Philadelphia), Jones & Hunter (Boulder)*
1950—Chemistry Addition [Ekeley South Wing], *Trautwein & Howard (Philadelphia), T.H. Buell (Denver)*
1950—Carlson Gymnasium Additions, *CU Physical Plant Architects*
1951—Sommers-Busch Observatory, *Trautwein & Howard (Philadelphia), James Hunter (Boulder)*
1952—Geology Addition [Bruce Curtis Building], *Trautwein & Howard (Philadelphia), James Hunter (Boulder)*
1952—Physics [Ramaley Biology], *Trautwein & Howard (Philadelphia), James Hunter (Boulder)*



1953—University Memorial Center, *Trautwein & Howard (Philadelphia), James Hunter (Boulder)*
1954—Fleming Hall [later Nichols, later Cheyenne Arapaho], *Trautwein & Howard (Philadelphia), Peterson & Linstedt (Denver)*
1955—Libby Hall, *Trautwein & Howard (Philadelphia), Peterson & Linstedt (Denver)*
1955—Music [Imig Music], *Trautwein & Howard (Philadelphia), Peterson & Linstedt (Denver)*
1955—Service Building, 3rd Floor Addition [Environmental Design], *J.W. Noaecker (Boulder)*
1955—Willard Hall, *Trautwein & Howard (Philadelphia), Peterson & Linstedt (Denver)*
1956—Hallett Hall—*Trautwein & Howard (Philadelphia) White & Overholt (Denver)*
1956—Hellems Annex [Education], *Trautwein & Howard (Philadelphia)*
1956—Stadium Building, *Trautwein & Howard (Philadelphia)*
1958—Chemistry [Cristol Chemistry], *Trautwein & Howard (Philadelphia), Huntington & Belsford (Denver)*
1958—Fleming Law School, *Trautwein & Howard (Philadelphia), Robert Berne (Denver)*
1959—Wardenburg Student Health Center, *Trautwein & Howard (Philadelphia), Eugene D. Sternberg (Denver)*
1960—Astro-Geophysics [SLHS], *Trautwein & Howard (Philadelphia)*
1963—Kittredge Complex I [Andrews, Smith Halls], *Architectural Associates Colorado (Hobart Wagoner, Lead Architect)*
1964—Kittredge Complex II [Arnett, Buckingham Halls], *Architectural Associates Colorado (Hobart Wagoner, Lead Architect)*
1964—Norlin Library Addition, *Murphy & Mackey (St. Louis, MO)*
1964—Regent Hall [Regent Administrative Center], *Meyers & Ayers (Baltimore)*
1964—UMC Addition, *Moore & Bush (Denver)*
1965—Engineering Center, *Architectural Associates Colorado (W.C. Muchow, Lead Architect)*
1965—Laboratory for Atmospheric and Space Physics [LASP], *Harry Weese (Chicago)*
1966—Joint Institute for Laboratory Astrophysics [JILA], *Harry Weese (Chicago)*
1969—Business Building, *Murphy & Mackey (St. Louis, MO)*
1971—Duane Physical Sciences, *Harry Weese (Chicago)*
1971—Muenzinger Psychology, *Harry Weese (Chicago)*
1973—Ekeley Center Section Replacement, *Johnson Hopson (Denver)*
1973—Fleming Law School Addition, *Muchow, Haller & Larson (Denver)*
1973—Porter Biosciences, *Haller & Larson (Denver)*
1973—Student Recreation Center, *James Wallace (Colorado Springs)*
1974—Muenzinger Addition, *Haller & Larson (Denver)*
1975—Ekeley Pharmacy Wing, *Johnson/Hopson (Denver)*
1975—Fiske Planetarium, *Marvin Hatami (Denver)*
1977—Norlin Library Addition, *Murphy Downey Wofford (St. Louis, MO)*
1978—Imig Music Addition, *McOg (Denver)*
1979—Events Conference Center, *Muchow, Haller & Larson (Denver)*
1981—Kittredge West Hall, *NBBB (Boulder)*
1981—Ramaley Biology Addition, *Caudill Gustafson (Aspen)*
1984–1986—Old Main Renovation, *Midyette Seieroe (Boulder)*
1985—Theatre Addition for Dance, *Cabell Childress (Denver)*
1986—Geotechnical Centrifuge, *Pahl-Pahl-Pahl (Denver)*
1986—Macky Auditorium Renovation, *Midyette Seieroe (Boulder)*
1986—Telecommunications, *Crosby Group (Denver)*
1987—JILA Addition, *Anderson Mason Dale (Denver)*
1987—Chemistry Stores Addition, *Swanson Rink, John Lund, Head Designer (Denver)*
1987—*CIRES*, *Caudill Gustafson and Ross (Aspen)*
1990—Biochemistry Addition to Chemistry, *Anderson Mason Dale (Denver)*
1990—Student Recreation Center Addition, *Wallace, Nakata (Colorado Springs)*
1991—Dal Ward Athletic Center, *Sink Combs Dethlefs (Denver)*
1991—Euclid Avenue Autopark, *RNL Design (Denver)*
1991—Police and Parking Services Center, *RNL Design (Denver)*

Chronological List of Major Buildings and Responsible Architects (continued)

1991—Regent Drive Autopark, *RNL Design (Denver)*
1992—Mathematics, *C.W. Fentress J.H. Bradburn (Denver)*
1994—Gold Biosciences [MCD Biology], *OZ Architecture (Boulder), MBT Associates (San Francisco)*
1995—Wardenburg Student Health Center Addition, *Klipp Colussy Jenks DuBois (Denver)*
1996—Drescher Undergraduate Engineering [ITLL], *Klipp Colussy Jenks DuBois (Denver)*
1997—Imig Music Addition, *Sink Combs Dethlefs (Denver)*
1998—Benson Earth Sciences Building, *Anderson Mason Dale (Denver)*
2000—Eaton Humanities/Woodbury Renovation, *Bennett Wagner & Grody (Denver), Sasaki Associates (San Francisco)*
2002—Discovery Learning Center, *Klipp Colussy Jenks DuBois (Denver)*
2002—UMC Addition, *Gensler (Denver)*
2006—ATLAS [Roser Alliance for Teaching, Learning and Society], *Downing Thorpe James (Boulder)*
2006—Wolf Law, *Davis Partnership (Denver) with Centerbrook Architects (Centerbrook, CT)*
2007—Koelbel Business renovation and addition, *Davis Partnership (Denver) with Architectural Resources Cambridge (ARC) (Cambridge, MA)*
2009—Visual Arts Complex, *OZ Architecture (Denver) with Kalmann McKinnell & Wood (Boston)*
2010—Basketball/Volleyball Practice, *Sink Combs Dethlefs (Denver)*
2010—Center for Community [C4C], *Davis Partnership (Denver) with Centerbrook Architects (Centerbrook, CT)*
2012—JILA Addition, *RNL Design (Denver) with HDR Architecture (Denver)*
2015—Heating and Cooling Plant, *Luis Acosta Architects (Denver) with Lutz, Daily & Brain (Overland Park, KS)*
2015—Grounds and Recycling Center, *Aller Lingle Massey Architects (Fort Collins)*
2016—Champion Center, *Populous (Kansas City, MO)*
2016—Athletics Indoor Practice Facility, *Populous (Kansas City, MO)*
2017—Euclid Avenue Autopark Addition for CASE, *OZ Architecture (Boulder) with BOORA Architects (Portland, OR)*

Epilogue

The author, Bill Deno, is pictured here in 1984 when he was managing the renovation of the Old Main building. (He would like readers to know that he replaced his fedora with a hard hat when entering the building!)

The original Old Main received major changes. For example, seating in the chapel was rotated 90 degrees, and a two-story wall on the north side was removed to accommodate a stage and dressing rooms. A ceiling mural was added, the south side received a new balcony, and 250 plush, red seats were placed throughout.

Two years later, Bill turned his focus across the street to the Macky Auditorium renovation project. He was later promoted to Campus Architect and became a fastidious shepherd of capital development projects. Seventeen years and thirty-one projects later, Bill retired his hard hat at the end of 2002.

Bill's extensive experience and passion for the scrupulous development of the Boulder campus is evident in his writing. And while his time as a dedicated overseer will eventually come to an end, the legacy he leaves behind via *Body & Soul* will live in perpetuity to inspire all those who follow in his footsteps. ■

