GROWTH AS TRADITION: BERN, A TRADITIONAL SETTLEMENT IN CHANGE

RICHARD M. BECKMAN AND DIETER ACKERKNECHT

Over the centuries, Bern, Switzerland, has remained remarkably flexible, adapting to numerous unforeseen changes. Since the city’s founding in 1190/91 A.D., its original planning concepts (a legacy of the Counts of Zähringer) have allowed a continuum of new traditional urban forms to evolve, each a quantum leap beyond the last, in response to changing economic and social conditions. The result today is the compelling image of Bern’s medieval Inner City. In contradiction to the gestalt of 800 years of dynamic growth, however, recent restraints may be draining the livability of this Inner City. This paper explores Bern’s history, examines its growth and change, and raises the question whether its center is becoming a museum city of false facades rather than a living organism continuing to respond to changing social and economic forces.

Medieval cities existing today embody a long tradition of growth and change. In the past an appreciation for the existing building substance tempered the evolutionary change brought on by new economic requirements and an ever-changing Zeitgeist. Not long ago the modernist movement attempted to promote the tabula rasa idea; that is, it advocated the tearing down of old buildings and settlements — defined as a creative act in itself — to allow new creative forces to emerge. By contrast, old parts of settlements and buildings are today held in high esteem even if they are of no particular architectural merit. This type of generational conflict can be observed throughout the history of art and architecture. Changing cultural values and conservatism often conflict with growth and prosperity, altering the very processes that create settlement patterns worthy of preservation.
Over the last 800 years the urban morphology of Bern has been redefined in response to changing economic and social conditions. Each new expression has been a quantum leap in form and scale beyond the last. Beginning in the 1950s, however, regulations were put in place which restricted physical change in an attempt to preserve the city’s historical medieval character (FIG. 1). This “freezing in time” of an historic moment contradicts the long tradition of Bern.

Outwardly, the charm of this medieval city, bustling with residents, workers and shoppers, offers an appealing paradigm of mixed use and sustainability. In the 1960s Bern’s Inner City was touted as testimony to the genius of planning concepts instituted by the city’s founders, the Counts of Zähringen. A closer examination, however, suggests that the social and economic forces of the twentieth century may be conspiring to reduce the vitality of the Inner City. The combination of explosive growth in government employment and restrictions aimed at preserving the Inner City's historic facades have unleashed economic pressures that are driving out residential uses. Since the 1950s flats have been converted to offices, shops have expanded to take over basements and upper floors, and the residential population has declined drastically. Only the wealthiest residents can now afford to compete with rents offered by other uses. Meanwhile, local residents comprise only a small percentage of shoppers in the Inner City. In a 1980s poll, the Bernese themselves pronounced that the Inner City's attractiveness factor was declining.

This shift in uses is reminiscent of the changing urban patterns of other Western cities since World War II. Only in the last decade have strides begun to be taken to overcome the resultant isolation and segregation. Enormous effort has gone into attracting vitality and diversity back to downtown areas of the United States. Much of what is seen as desirable today by neotraditional planners and advocates of sustainability resembles Bern. This raises the important question: is what such people are advocating only a facade?

This paper asks two questions. Can preservation coexist with vitality and livability in a thriving traditional settlement? And are there alternatives in Bern to present regulations, ones that might, in keeping with its history of dynamic change, recognize today’s changes and permit another quantum leap for the Inner City?

HISTORICAL EVENTS IN CENTRAL AND NORTHERN EUROPE

Between 450 and 750 A.D. profound changes took place in Europe. After the fall of Rome in 476 A.D., urbanized life, deeply rooted in Italy and around the Mediterranean Sea, survived there in a somewhat modified manner; however, in the north the decline was definite and drastic. As different ideologies and societies with different political and social systems struggled for position, a new diversity of regional cultural values appeared. As a result, the “good town” of the ancient world vanished in a turmoil of mass migration. Old, weak societies were replaced by new forces, and ancient towns were plundered, looted and devastated. Dramatic changes occurred in economic, legal, cultural, social and administrative power structures, and the technical progress achieved under the Romans was abandoned as other life-styles and settlement patterns surfaced.

“Tell the free man belongs the whole world...” was the attitude of the new northern ruling societies, writes Ernst Egli. Many tribes still led a nomadic life — migrating, moving on, worshipping nature in the form of the forest, holy trees, and landscapes. In general, the forces of nature were admired, and the newly surfacing pastoral (rural) ideology (geinnaug) evidenced strong anti-urban feelings.
New creative forces and self-confidence grew out of this plundering and liberation. The Celts and Teutons played an important role. The settlement pattern of the Teutons consisted mainly of scattered single farm houses, hamlets, or tiny villages for large families or separate tribes. Only in times of danger did the population come together in refuge castles. Characteristically, no word for city or town existed at this time; the closest was borg, meaning "castle." Within this context, it took many years for cluster settlements to develop, usually around topographical features suited to defense. Eventually, a new interlocking of northern and southern Europe did occur through exchange of goods and knowledge. The new meeting and melding of north and south brought both the highs and lows of medieval cultural, religious, social, legal and political struggle. Wars, travel, trade and commerce, and foreign ideas all influenced town planning, urban design, and architectural style, as foreign influences were combined with a revival of interest in Roman roots.

Some 300 years after the fall of Rome both new and revitalized towns flourished again. New towns developed in abundance between 1050 and 1500 A.D. Rulers introduced city rights, leading to a renewed domination of rural populations by city dwellers. For example, A.E.J. Morris writes:

Around AD 1200 the Holy Roman Empire had about 250 towns west of the river Elbe and only 10 to the east. Two centuries later there were 1,200 in the West and the same number to the East. The result of eastern expansion of Germany brought about by land shortage and the overwhelming zeal of Teutonic Knights, seeking to establish Christianity in new areas.

**CHARACTERISTICS OF THE NEW SETTLEMENTS**

Changing societal values required different urban forms. A town was defined by its rights. Urban settlements became places of particular legal and economic privileges — such as rights for defense, markets, a legal system, self-administration, coinage, etc. New classes of rulers emerged in the secular and clerical sectors (independent of monasteries), increasing the demand for new homes at different levels of social hierarchy. The need for physical protection also grew in this time of general uncertainty and political instability. Craftsmen and traders required protection, and fortifications became major form-givers for urban settlements. But there were other forces at work too. The exchange and demand for special goods such as precious stones, metals, silk and spices surfaced. The emergence of skilled craftsmanship, with the means for professional specialization, changed social structures and urban morphology. Towns increasingly became administrative centers for tax collection, etc. As a result, churches and administrative buildings came to occupy either central or prominent locations. Marketplaces, vital to towns and their hinterlands, also became important urban form-givers. The need for weather- and theft-protection (along with accompanying functional reorganization) led first to temporary structures, then to permanent structures such as arcades and market halls. Changing marketplace typologies have in general had a particularly dramatic impact on urban form over the centuries.

Along with the new standard of living, there emerged in late medieval times a will for aesthetic qualities in the development of buildings and towns, which led to a consciousness about the total organism of a city and its gestalt. The contribution of all citizens, as participants in building city form, came to be expected. Settlements and towns were also viewed as they suited their particular site. The medieval city was considered a whole, spatial, three-dimensional piece of art — a gesamtwerk, or a work of its citizens. The town was a composition, a setting for its main elements. The community's main functional and symbolic features — its churches, castles, marketplaces, assembly halls and government buildings — formed an aesthetic whole together with its general roofscape of residential buildings.

Medieval cities were built with narrow, winding alleys, cul-de-sacs, and backyards. The rejection of the straight line and the play with irregularities is still today their trademark. Many urban patterns reflect the original rural, random pattern of old villages, with the irregular positioning of their houses sometimes resembling late-twentieth-century squatter settlements. Bern, in spite of its basic underlying orthogonal grid, includes such subtle curves and offsets, evoking similar characteristics.

Vertically, medieval cities became mixed-use conglomerations, with housing above ground-floor shops. But horizontally, specialized professional areas developed in particular streets. We can observe similar concentrations today in Middle Eastern and Oriental cities. In the towns of central and northern Europe only the names of alleys and streets remain, mute testimony to this ancient tradition of functional and professional segregation.

**THE SWISS CONTEXT**

The area that is now Switzerland was first settled around 2500 B.C. The Romans established towns and military camps there during their ascendancy. But after the collapse of the Roman
Empire in middle and western Europe, Teutons from the north conquered the area. Since these new rulers did not require permanent residences, a rural culture developed, with single estates, small housing groups, and strategic defensive fortifications. It was not until the twelfth century that permanent seats of government were established. The establishment of secular and religious institutions and market and craft traditions allowed towns to play a more dominant role. In Switzerland these settlements often had Roman origins, e.g., Zurich, Geneva, Lausanne and Basel (FIG. 2). But rulers in the area also founded new towns. For example, Bern and Freiburg were founded by the Counts of Zähringen. Competition between different authorities and rulers flourished, each seeking economic return. Swiss towns were located on river loops, at river crossings, at lake ends, on hills or other natural feature favorable to trade and defense, and were often built on Roman ruins.

Although only fourteen towns existed at the end of the twelfth century in the German part of Switzerland, the number grew to about 88 by the end of the fourteenth century. The increasingly democratic system of federal and state governments favored the growth of many, independent towns, so that none could become predominant. Depending on circumstances, the towns grew differently over the centuries. Size varied with the fortunes of rulers, wars, the plague, and other social and economic factors. Today Zurich is the area’s biggest urban agglomeration, followed by Basel, Geneva, Bern and Lausanne (FIG. 3).10

THE ZÄHRINGER TOWNS

The twelve new towns founded by the Counts of Zähringen provide a remarkable story within the overall history of urban development in medieval Switzerland (FIG. 4). The undertakings of the Zähringers became more widely known following a 1964 exhibition in Thun, organized by Paul Hofer to commemorate that town’s 700th anniversary. Ervin Y. Galantay of Columbia University later brought this exhibit to the United States. In an introduction to a 1966 exhibition catalogue, he writes:

The 12 Zähringer towns formed a sensible regional system, distances between them being scaled to permit fruitful economic interaction. In promoting these new towns the Dukes not only tried to stabilize their control over the territory but also hoped to become beneficiaries of the developing money-economy by attracting the merchant and craftsmen classes with land-grants and privileges, not unlike governments of underdeveloped regions today anxious to attract investment and new industries by tax abatement and other incentives.11

In the same catalogue, Hofer explains:

The Zähringer town is Romanesque. The researcher who sees in Romanesque architecture the last authentic appearance of the antique world perhaps simplifies but hardly falsifies the history of architecture. At this point the further development of the Zähringer idiom at the time of urban expansion and hypertrrophy in the 13th and early 14th century can be as little sketched as the rise of contrasting types: the cross market, square central market, and radiocentric developments. . . . Whoever walks through the Martinspor Gate in Freiburg, Germany, through the Black Tower in Rottweil, or through the Bern Gate in Marten
a market thoroughfare, 75 to 100 feet wide running the full length of the town between the gates; 2. the absence of other interior spaces: 3. the use of the homestead (area) as a planning module; and 4. the taxation unit; 5. an orthogonal geometry (gridiron) basis of plan, in harmonic proportions of 2:3 and 3:5; 6. location of public buildings away from the main market-street; 7. placing of the fortress at a corner or at a side wall; and 8. construction of a sewage system. Of these elements “laws” the most important by far was the market-street, not only the raison d'être of the town but also the point of departure for the entire plan. Contrary to what was usual in a medieval town, a strong encircling stone wall was not a component part of a Zähringer town: it probably had no more than a timber palisade and moat. Stone fortifications were added after the Zähringer period. 26

Galantay amplifies one of these points: “The central idea of the Zähringer plan is the spinal importance of the wide … market street, reserved exclusively for market use and the subordinate lateral relationship of church, city hall and other public buildings.” 27 “This disposition is expressive of the fact that the market was indeed the primus mobile of the foundations.” 27 Galantay further expands on Morris:

The characteristic pattern of streets and lots formed a lovely orthogonal grid articulated by the Gassenmarkt, the wide social space of the market, and a main axis generally of lesser width, the alignment of its two axes slightly shifted as if to mark its secondary importance. The modular pattern shows remarkable flexibility and its identical internal disposition the periphery of the towns varies considerably with respect to the topographic determinants. 28

Wherever possible, the overall shape was a rectangle. In Freiburg, the shape of the site … modified the basic shape to a trapezoid. The polygonal or meandrous peripheries of towns like Rottweil, Villingen and Freiburg are due to expansion and construction of ring walls and fortifications.” 29

Bern, occupying a narrow peninsula, seems to have combined the fortunes of topography with the maturity of the planning concept. The narrow shape served to direct and funnel growth, maintaining a cohesive development that expanded westerly in an orderly and linear fashion.

Galantay further emphasizes the importance of the original homestead area that facilitated growth and change over time:

The pattern also proved to be adaptable to changing land uses as the original large homesteads were soon split into narrow, deep lots to be reassembled again for modern commercial use. … The flexibility within the framework of a disciplined overall structure is the chief quality of the original plan.” 30

Bern, founded by Berchtold V in 1190/91, along with Thun, were the last two towns founded by the Zähringers. This paper is primarily concerned with Bern’s development, but Rolf Hager provides a short history of all the towns in the catalogue referred to above. 31 Morris, drawing on Hofer’s work, describes the essence of Zähringer planning legacy:

Eight basic elements governed the layout of the Zähringer towns in their fully developed state at the end of the twelfth century: 1.

FIGURE 4. The Zähringer lands: the twelve Zähringer towns and new towns. Offenburg (1061); Freiberg, Germania (1093); Villingen (1078); Rheinfelden (1090–1130); Rottweil (1078); Freiburg, Switzerland (Freiburg) (1090); Nuremberg (1171–1183); Zurich (1173); Esslingen (1172); Altorf (1179–1183).

(Computer drawing after Hager, “A Short History of the Towns,” p. 31.)
In time, even though parcels were combined in a variety of configurations, the massive party walls left their imprint, forcing contemporary merchants to adapt to long, narrow spaces. Residential units also had to conform to rigid containers which over time became less and less suitable for contemporary life-styles. Galantay adds that (beside the institution of a sewage system) the development of a central water supply in the middle of the street was also important. Finally: The military importance of the Zahringer towns was subordinate to their market function. They even thrived without the protection of the ring wall for long periods after their founding. 

One may return to Hofer to understand the Zahringer achievement in its proper historical context:

Not a single one of these eight laws is new around 1150. The rectangular plan, the cross-axis, the modular unit, and the subordinate placement of public buildings existed in the classical plans of the time of the early Roman emperors. ... The life arteries of the Zahringer towns, the wide, continuous market thorough­fares were missing in the Roman garrison towns. ... The achievement is one of synthesis and development. For the first time diffuse existing elements are brought together into a strong relationship. The decisive quality is the energy with which these elements are combined. The recognition of natural limitations and a clear concept of town planning meshed together like cogs. In the intuitive sense of Greek conception, the inner logic of a theory gives rise to a non-rigid system. Its practical worth is shown in the flexible adaptation of a small number of mutable elements to constantly changing sites: a river bank or loop in the river, flat land, slopes, or hill-tops. In this respect the Zahringer towns may be compared to a string net, an unbreakable as it is elastic, whose basic geometric pattern changes according to the location, size, structure, and profile of the building site. It can be modified without relinquishing anything; an ideogram not an ideology or rigid scholastic doctrine. The essential is separated and clearly ordered without pedantry, but also without subterfuge. The absolute size of the town and the ring walls, mostly built in the thirteenth century is not defined. The sacred and profane public buildings, harnessed to the side streets, are of secondary importance. The market thoroughfare remains the basic raison d’être. With it, the main achievement of the 12th century, the large scale central and urban space, becomes the governing factor of a logically developed town-planning concept. 

Further, the Zahringer “homestead” was not a lot for a single family but a development unit, a “superplot” meant to be indivisible or recombined according to demand, but the legally fixed proportions of the plots guaranteed the survival of the rhythm of the original order.

The Zahringer towns provide convincing examples of what Edmund Bacon calls: “a set of design principles capable of influencing action.” They are the living proof that design ideas, expressed in a few lucid guidelines, can be both the carriers of identity and also the determinants of the city’s future.

The Zahringer towns ... are notable not only for their plan and spatial impact, but also as classic examples of an enduring success in city planning ... remarkably similar for all ... a gradual development of the model ... can be traced to its final formulation in Bern. 

While each of the Zähringer new towns embody to some degree or another the above original principles, each has survived to this day only through growth, change and adaptation. Their present configurations range from totally rebuilt (Neuenburg, Germany); to barely recognizable remnants (Zürich, much altered and enlarged); to perfectly preserved (Murten). Bern is special in that it provides an opportunity to explore the nature of growth and the inherent ability to change.

CHARACTERISTICS OF BERN: WHAT IS SPECIAL?

According to Galantay:

Visitors to Bern, Switzerland, are surprised both by the compelling image of the old town and by the unique vitality it fosters. Architects and planners become even more intrigued when they learn that the town was founded in 1190 as the result of a regional “New Towns policy”. ... Bern offers a classic example of
the survival and success of a planned community. By the 16th Century, the small, medieval town had become the most powerful city state north of the Alps, and in 1848, capital of Switzerland. Through all these political and economic changes, the original core changed but little; in plan and spatial concept, it still retains the essence of the original foundation. Yet it is not a mere tourist precinct; the old town accommodates heavy vehicular traffic and assimilates space-devouring new activities and land uses, and its prosperous retail core is of great interest to the developers of shopping centers. In fact, the medieval town is still the undisputed center of a city of 170,000 people and of a large urban region. One is tempted to evaluate such a lively historic city simply by applying modern performance criteria: it is a system that functions, a structure that has proven adaptable to pressures unforeseen by the founders. Yet such an empirical approach could not explain the phenomenon of Bern."

Bern follows the pattern of all the Zähringer new towns and, being the last, perhaps represents the ultimate refinement of Zähringer planning. Beyond general planning concepts, each new town responded to its topographical conditions. Bern occupies a peninsula, located on a loop some 30 meters above the Aare River. The north and south edges were clearly delineated by steep cliffs rising from the river. The road station today defines the western limits of the Inner City, some 4,400 feet from the Nydegg. The peninsula only widens here to a maximum of 1,300 feet. This restricted, highly walkable area defines the Inner City. In comparison, Leon Krier describes the ideal city in terms of urban quarters, which "... must integrate all daily functions of urban life (dwelling, work, leisure) within a territory dimensioned on the basis of the comfort of a walking man; not exceeding 35 hectares in surface and 15,000 inhabitants." Krier shows that the first planned development of Bern was 17 hectares, and its population from the twelfth to fourteenth centuries is estimated to have been between 4,500 and 5,000.

THE DEVELOPMENT OF BERN

The original development began near the eastern tip of the peninsula, west of the Nydegg castle and extended westward some 2,000 feet. This 2,000-foot-long by 700-foot-wide area was planned as one entity consisting of 104 homesteads. Forty-six were built in the initial phase between 1191 and 1210. The second phase consisted of 62 homesteads constructed between 1220 and 1230. Here, the central market street, today's Gerechtigkeitsgasse and Kramgasse, rise from the eastern end of the peninsula were begun in 1191. Between 1220 and 1230 the next 62 were built. Wooden walls secured the western flank at both stages of development. The peninsula, only 700 feet wide at the location of the first development, served to restrict lateral growth, channeling and reinforcing the central marketplace, or spine.
the Nydegg to a final elevation 30 meters above the river (FIG. 7). In 1461 the street was lowered some three meters to ease the connection with the new bridge. The excavation opened up basement levels to street access, which today are occupied by a variety of commercial activities. The covered arcade continues at the upper level, requiring the addition of stairs to street level.  

The planning module — lots 100 feet wide by 60 feet deep — was uncommon at the time. However, numerous sources seem to concur that the homesteads were intended from the beginning to be subdivided. Thus, the present narrow parcels may be attributed either to the Zähringer’s flair for real-estate development, to the fact that narrow longitudinal patterns were fashionable for new towns and rural subdivisions in the twelfth century, or to the result of inheritance laws (FIG. 8). Spiro Kostof writes:

> The urban shift from an agricultural to a commercial economy. . . . (was) in full swing by the end of the 12th century, from Flanders and North Germany to the Sicily of the Hohenstaufen. . . . Typical of all the Zähringer towns was the division into a set number of farms (casalae). The dimensions of the yards were variable, the standard proportions being 2:1 and 3:5. The long side was parallel to the street. The number of lots was also variable — 2, 5, or 7. . . . This basically rural system was slowly pushed aside from the mid-12th century, as strip lots replaced an urban framework suitable for a merchant economy, with the agricultural component now clearly secondary. The proportions of these new parcels could be extreme: 10 by 150 feet (4 by 60 m.) in Basel, 23 by 175 feet (7 by 53 m.) in Bern, and 23 by 213 feet (7 by 65 m.) in Geneva. The tall narrow houses, pushed up to the building line, rounde the character of the streets.  

In the case of Bern, lots 23 feet wide by 175 feet deep could not have occurred until well into the thirteenth century. (Although it is appealing to think that the original planning concept foresaw and regulated these subdivisions, today’s plot patterns bring this thesis into question. The irregular divisions may have owed more to the impact of inheritance laws and market forces than to the original proportions prescribed by the founders.)

In a series of orderly developments, Bern expanded westward from the original plan (FIG. 9). Each subsequent development followed on the original pattern, maintaining the importance of the market spine. As the city grew, the Gassenmarkt continued uninterrupted by noncommercial use. Today the 4,400-foot-long axial market terminates near the train station and is marked by continuous arcades (FIG. 10). No public buildings, institutions, or open spaces interrupt the flow of commercial activity.

While the city’s expansion built on original patterns, over the years changes in use and technology resulted in changing urban forms and building typologies. As the city grew to the west, buildings grew vertically as well as horizontally, extending over the market-street right of way (incorporating the original market stalls). To the rear the buildings ultimately connected across rear yards in the seventeenth century to create the very deep properties alluded to by Kostof. Changes to the twelfth-to-fourteenth-century buildings occurred between the fifteenth and seventeenth centuries and again in the eighteenth century. The Gassenmarkt was reduced in width (extending over arcade “air rights”), and the height of the buildings on either side increased, representing a new quantum leap in scale, proportion and character (FIG. 11).  

Hofer identifies the first building type in Bern as a two-story row house with a stall in front, built on a narrow, subdivided lot. But it might seem logical to speculate that an even earlier construction may have consisted of a single house on the original 100-by-60-foot parcel. This land may then have been divided for inheritance purposes or under market pressures, signaling an earlier quantum leap from rural to urban scale.

**BERN, 1230 TO 1950**

From 1230 to 1250 expansion occurred to the north of today’s Rathausgasse, incorporating Brunngasse; and to the south
FIGURE 8. The original homesteads, 100 feet wide and 60 feet deep, were subdivided into smaller parcels over time. Volumetric expansion also occurred. The buildings of the first phase of expansion in the foreground (depicted here as occupying 25-foot-wide subdivided parcels) were typically two stories high and 30 feet deep, with a 30-foot rear yard. They included portable market stalls that occupied 12 feet of the street. The second building expansion incorporated 12 feet of the street, as the market stalls were integrated into the buildings, forming the arcaded typology of today. At the same time building depths increased to around 52 feet, and rear yards were reduced to 20 feet. The next phase pushed higher and deeper (buildings became 62 feet deep), reducing rear yards to only 10 feet. In the seventeenth century the rear yards were generally infilled completely with buildings at ground level (not shown) as parcels were reconfigured and buildings connected across the original alleys and the now-covered sewage-collector system. This last quantum leap allowed parcels and dwellings to extend from street to street. (Drawing by Merrill Keiffer. After Hofer, "Strukturnanalyse," pp. 24–25.)
along today's Herrengasse, essentially infilling between the 1220–30 development and the river (REFER TO FIG. 9). In 1255/6 Bern expanded westward again. A new west wall was built where the Küfigturm gate-tower is now located. The streets in this area, following the Marktgasse (Zeughausgasse and Amtshausgasse), diverge as the peninsula widens. Here for the first time we see the possibility of the deep lots alluded to by Kostof. From 1255 to 1340 development occurred in the area previously occupied by the Nydegg castle, which was destroyed between 1265 and 1272. The gently curving streets here ascend the hill and impart a medieval character, as the loose orthogonal grid stretches and adapts to topographical conditions.

Between 1344 and 1370 Bern again extended west, building yet another new wall and gate along today's Bollwerk. Development also occurred along the river's edge south of the Nydegg. After the disastrous fire of 1416 facades were moved forward the width of the market stalls and a new building typology, incorporating arcades, emerged, representing a new quantum leap. In 1461 a stone bridge replaced the wooden one and the grade along the Gassenmarkt was lowered.49 Between 1622 and 1634 Baroque bulwarks were added in the area that is now the railroad station. Other major defensive walls, reflecting changing warfare technology, were built along the river in 1639 and 1642.

According to Galantay, Bern, “...this venerable ancient ‘New Town’ is one of the most modern in terms of accessibility.”
Galantay compares Bern to New York from 42nd Street to Central Park, a distance equivalent to the 4,400 feet of Bern's market street.

The street pattern of Bern shows some dimensional similarities to the familiar grid of Manhattan, but Bern's pattern seems more sensible, since there are notably fewer intersections along the principal arteries. Along the east-west axis one can drive an average of 750 feet without having to bother about cross-traffic.

This, of course, was written before Jane Jacobs' message began to be heard in planning circles. However, numerous pedestrian cross-connections had been created to link the arcades. Galantay quotes Swiss architect Martin Geiger: "... the mediaeval arcades and covered cross-connections, modern passageways and shopping concourses amount to a system of 5 miles of weather-protected pedestrian ways" (FIG. 12).

Galantay also compares Bern to Montreal's four-mile underground system, which serves 44 acres of that city's 200-acre downtown: "... a ratio of 550,000 inhabitants for each one-half mile of protected pedestrian shopping." Bern, on the other hand, has a 100-acre core area, with a ratio of one half mile of covered arcades for every 34,000 residents.

Galantay uses no statistics to back up his assertion. The population of the Inner City declined from 6,268 in 1970 to 4,781 in 1980. (Herat, Afghanistan, a nonypical Middle Eastern city and regional marketing center for a population of one million, had six miles of markets along two intersecting market streets in 1967 and provides an interesting comparison with Galantay's statistics on shopping areas and population base.

By the nineteenth century the twelfth-century planning module — 60-by-100-foot parcels, further subdivided into buildings 25 feet wide or less, separated by massive firewalls — discouraged the development of large department stores and preserved the linear arcaded shopping spine (FIG. 13). The urban structure forced the retail pattern to adjust to existing conditions. Small specialized retail stores, all highly accessible and visible, continued to abound (which were, however, not unlike the divisions of vast spaces in department stores into smaller boutiques).

While the form of many Western cities, responding to new technologies, first developed large department stores, then regional shopping centers, Bern maintained a pedestrian-oriented, vehicular-accessible shopping area. Furthermore, the large governmental employment base, the increasing importance of international business, and the expanding tourist trade has created the market in the Inner City for a greater variety of goods than would otherwise have been available to its residents. As late as 1975 the Inner City was considered to have an exemplary mixture of uses, with cellars for small theaters, etc. But by 1985 shops were beginning to take over areas other than their traditional locations on arcaded streets and linking passageways. In many areas of the Inner City residential use has now been replaced by office and commercial uses.

Was it the insightful planning of the Zahringers eight centuries ago, the will of subsequent rulers, or pure accident through an evolutionary process that has preserved this shopper's paradise? From the twelfth to eighteenth centuries the population grew, but urban scale and form always responded in dynamic fashion. At each developmental phase a new tradition emerged, complete with regulations that maintained appropriate and harmonic relationships between negative and positive spatial configurations, and which ensured a
One of the numerous all-weather pedestrian passages that link the arcades of the main market street (Gassenmarkt) with arcades on other streets. (Photo by R. Backman, 1985.)

The original homestead parcels, 100 feet wide by 60 feet deep, were typically subdivided in two, four, five or seven smaller lots. Over time these parcels were recombined, joined across alleys, and further subdivided. The configuration of many parcels were frozen to touch the construction of heavy masonry firewalls that are difficult to penetrate or remove. This map shows the division of property within the first development phase as it exists today. (Computer drawing after Hofer, “Stadtplananalyse.” p.10; Hager, “A Short History of the Towns.” p.18; and Divonne, Berne et les villes, p.87.)

“high quality of proportions.” The image of the Inner City is now defined by a great diversity of buildings and architecture from different periods. However, harmony exists in diversity because each building is subordinate to a whole system and to the strong framework of the original plan.

Freedom of design has been limited in every period. Rules have included regulations on subdivision, plot size, setbacks, height, required firewalls, and arcade integration. Architectural regulations have concerned the form of build-
central business district. Despite these changes in the city core, the structural character remains, and, most important, the sense and spirit of Bern(e)'s medieval origin has been kept and preserved.

In 1955, 1975 and again in 1980, the Bernese imposed rules to restrict change (to retain existing facades, to maintain existing dwelling floor area surface, etc.), instead of attempting to develop new rules perhaps encouraging a fourth (or fifth?) quantum leap in harmonic volumetric expression. The intent has been to preserve the Inner City in its medieval form.

We have so far recorded numerous testimonies to the delights of the architecture, space, and urban structure of Bern. Is it possible that the city, as Galantay described it in 1967, can be frozen in time? Is it possible that Bern — the central business district and regional core of an urban agglomeration of nearly 300,000 persons, the capital of Switzerland, and the seat of a canton — can fulfill a growing number of local, national, and international functions within a container that can no longer grow, expand or change? Market forces being what they are, the highest and best use (that most capable of paying increasing rents) will drive out other uses. As Bern continues to grow as a government center, the demand for office space is placing increasing pressure on the limited space of the Inner City. The tendency for growth in the city's service sector shows no signs of diminishing, and as business is becoming more and more internationalized, office and commercial demands on central locations would seem to be relentless.

A DECLINING ATTRACTIVITY FACTOR?

During an extended visit to Bern in 1985, one of the authors observed the variety of forces that contributed to Bern's success. The narrow peninsula restricted growth to the north, east and south well into the nineteenth century, contributing to the preservation of the Inner City's medieval character. After the nineteenth century growth was clearly segregated and of a very different character (FIG. 14). The edge (or buffer) around the Inner City, is now made up of trees and river, further contributing to its attractiveness. The only open space in the Inner City is that of the Gassenmarkt and that of a few small plazas carved from the building fabric. However, a few hundred feet in either direction are views of wooded slopes, the river, the countryside, and the Alps.

At the time of the visit the city’s arcades served as holiday recreational areas. Cars, trucks, streetcars, motorcycles and bicycles seemed to mix with pedestrians without conflict. (As noted, the use of vehicles has since been subjected to strict regulation.) Sidewalk cafes and street entertainers were abundant. On the steep south slopes east of the münster, crops were intensively cultivated only minutes from the open farmer's market on the Kornhausplatz. Arcade shops offered a variety of goods imported from throughout the world. The city seemed to satisfy Krier's criteria for a healthy urban environment, where dwelling, working and leisure all take place within walking distance.

Closer observation suggested that all might not be as it seemed. Many of the shops catered exclusively to international tourists. Food markets were rare (although those which existed offered a tantalizing array of fresh local produce). Upper stories in many areas were dark at night. Streets north and south of the central market street were deserted much of the time. The reason? The residential population was not as evident as Galantay once described it. Indeed, the population of the Inner City has now declined to fourteenth- and fifteenth-century levels. After reaching 15,000 people in 1810, the number of people living in the Inner City declined to 6,268 in 1970 and 4,377 by 1988. As the residential population declines, so does the diversity of city life.

A number of factors now contribute to the declining residential population. The repulsion of dwelling use is the extreme
In 1967 Galantay wrote:

The Zähringers provided for just such a process of transition and growth. Through the will of the rulers and the population, the Bernese gestalt allowed physical change in response to changing societal needs and new technologies. At least three traditional urban morphologies evolved over time, each with its particular rules, scale, and proportions (REFER TO FIG. 8). We can only speculate as to the visual coherence at various stages of this evolution. (Today, in Thun, two different phases exist side by side: the Bern model of three dwelling stories set out over arcades; and a housing type where upper stories are set back from storefront shops, with the space over the shops being used for outdoor terraces.) But the fact remains that while the underlying structure has remained, the population has created a succession of beautiful cities through their collective efforts, each a quantum leap away from the last.

![Figure 15](image)

**FIGURE 15.** Typical building group, partial ground-floor plan in the Inner City (1993). The extremely narrow, irregular configurations contribute to the charm of the Inner City today. The massive firewalls restrict consolidation of shops into large-scale department stores, maintaining the vitality of the continuous arcade. The configuration also makes it difficult to adapt residential units to changing lifestyles. (Drawing by R. Kopp, F. Lemenberger, and P. Quareda. From: A. Rüegg, “Wohnquartiere der Stadt Bern.” p. 78.)

The functional mixture of the Inner City has now changed. Restrictions imposed to maintain the residential character of the Inner City have had the effect of protecting the existing character of the area and its buildings, not its former rich urban life-style. Analysis of recent economic research shows that Bern has already undergone a segregation of commercial uses and social functions.65

Friedrich Dürrenmatt writes a fictional account of Bern in which the city is examined in 10,000 A.D. by archaeologists and historians. A glass building, 300 meters high, had been constructed above the Inner City some time between then

---

**OUTLOOK FOR THE INNER CITY, 1990 — OVERLAYS OF TRADITIONS**

In 1967 Galantay wrote:

One of the most pressing problems in urban design is the need for a theory of tentative systems. Structures that maintain efficiency and visual coherence in the dimension of time. Not abstract target plans aimed at some crystalline balance, but systems that can adjust to unforeseeable influences, to evolution through a process of compensatory disequilibrations, or, to use the term coined by Henschel and Lendgren, to “displaced incrementalism.”

As the use mixture narrows (with the loss of a permanent residential population), diversity as a component of attractiveness also diminishes and economic segregation sets in. But the notion of Jane Jacobs, Leon Krier, and others that a city needs a strong wish for the return of a multifunctional, attractive city center.

A survey of pedestrians in the Inner City, published in 1993, found that residents of the area comprise only 6 percent of its users. Forty percent of pedestrians came from the larger urban agglomeration of Bern, 26 percent from the region, and 23 percent from outside the region. Visitor activities included shopping (31 percent), leisure (22 percent), walking through (20 percent), working (9 percent), commissions (8 percent), and education (2 percent).66

As the use mixture narrows (with the loss of a permanent residential population), diversity as a component of attractiveness also diminishes and economic segregation sets in. But the notion of Jane Jacobs, Leon Krier, and others that a city needs a rich and diverse mixture of residents and uses to provide life and vitality appears to be shared by the Bernese. Polls show a strong wish for the return of a multifunctional, attractive city center.66

A survey of pedestrians in the Inner City, published in 1993, found that residents of the area comprise only 6 percent of its users. Forty percent of pedestrians came from the larger urban agglomeration of Bern, 26 percent from the region, and 23 percent from outside the region. Visitor activities included shopping (31 percent), leisure (22 percent), walking through (20 percent), working (9 percent), commissions (8 percent), and education (2 percent).66

---

60 • TDSR 5.1
and now to serve as a commercial extension that would allow preservation of the old building fabric. The researchers determine that before the structure was abandoned it had been used exclusively for architectural conferences and guided tours.

Historically, Bern has responded to change in dynamic fashion, not with restrictive preservation measures. It would seem that the preservation issue should now be reexamined. Regulations allowing new buildings in harmony with the scale, proportion and materials of existing buildings would provide a more efficient way to accommodate new office and residential uses, and they would reduce pressures on historic buildings truly worthy of preservation. Such an approach would be more in keeping with Bern’s 800-year history of growth as tradition.

CONCLUSIONS

According to Kostof:

Cities are the analogs of buildings and people. They are inhabited settings from which daily rituals — the mundane and the extraordinary, the random and the staged — derive their vitality. In the urban artifact and its imitations are condensed continuities of time and place. The city is the ultimate memorial of our struggles and glories; it is where the pride of the past is set on display. . . . But whether born under divine guidance or the speculative urge, the pattern will dry up and even die, unless the people forge within it a special, self-sustaining life that can survive adversity and the turn of fortune.

For Bacon, the form of a city:

... is determined by the multiplicity of decisions made by the people who live in it. In certain circumstances these decisions have interacted to produce a force of such clarity and form that a noble city has been born. It is my premise that a deeper understanding of the interactions of these decisions can give us the insight necessary to create noble cities in our time.

Values change in the appreciation of human and natural environments, just as fashions fluctuate in the apparel industry. At times it is thought the old must make way for the new (as during the modernist period); at other times the ancient is revered regardless of its merit. Each generation must, and will, derive its own scale of values and rules of action.

Bern is one of the noble cities in our time. Will the Bernese rise to the challenge and redefine the Zähringer tradition by drafting new rules in response to changing needs and technology? Can the disjointed incrementalism of the Bernese gestalt lead to a new tradition for the twentieth and twenty-first centuries? Will such a desire by the population allow a new quantum leap toward a new harmonic expression? Or will Bern become a museum city frozen in time, encased in glass?

REFERENCE NOTES

3. Ibid, p. 15.
4. Ibid, p. 15.
5. Ibid, p. 16.
10. Although changing marketplace typologies have played a central role in Bern’s design and evolution, a general analysis of marketplaces is beyond the scope of this paper. For a detailed investigation of the development of medieval cities in southern Germany and the strong impact of market rights and trade on city planning, see Nagel, Das Mittelalterliche Kaufhaus. In general, urban morphology was first altered by the development of market hall structures. It was then reshaped in the nineteenth century by the arrival of department stores. Now, regional shopping centers, the marketplaces of the post-World War II era, are again reshaping urban development.
13. Ibid, pp. 19, 26, 55.
17. N. AlSayyad, Cities and Capitalism: On the Genesis of Arab Muslim Urbanism (New York: Greenwood Press, 1990). See p. 32, model of Typical Islamic Town, according to Wagstaff, which lists Candle makers & Perfumers; Bookellers & Bookbinders; Leather workers & Shoemakers; Carpenters, Jewelers & Tailors; Basket makers, Saddlers, & Blacksmiths; Tanners & Potters; each as distinct districts of the linear bazaar.
increase military security beyond that afforded by the natural terrain. Was security more important in Bern than in other Zähringer towns? Information regarding the first western wall and south wall and gate is rather recent, coming to light during excavations which took place after much of Hofer’s writings.


In The Zähringer New Town, Hofer places the number of homesteads in the original settlement at 64, as do Divonne, Morris and Urban Form, p.111. Schmocker and Weber place the number of original homesteads at 49. The numbers and dates used here are from Divonne, Bern und die vélles, and Hofer’s Stadte Bern, 1975. These two sources concur and appear to reflect the latest research.

44. Schmocker and Weber, Altes Bern, Cities Bern.


46. The lot size for the original homestead was only 60 feet deep. A double parcel, even when combined with the two 12-foot projections over the streets on either end (incorporating the arcade) would only add up to 144 feet. It was only in the third expansion around 1255—67 that lots 175 feet in depth would have been possible. Sufficient depth exists between the Marktgasse and the Zeughausgasse.

47. Generally, the original houses were narrow and vertically organized, with staircases in the back, deep narrow rooms (one or two to a floor), and a back yard oriented to the alley and sewer drainage. In the seventeenth century houses were extended from street to street. The former back yard and alley area became an architecturally upgraded inner courtyard with the sewage drainage covered. The change was the result of a change in life-style, an improved economic situation, and a change in the use of rooms—primarily on account of French influence. See U. Bellwald, “Stichworte zum Haus in der Berner Altstadt,” in Rüegg, ed., Materialien zur Studie Bern, pp.37-38.

48. A question arises as to the nature of the very first construction. Was the three-story house with a stand in front really the prototype of 1191, or was there a more rural phase? Numerous sources begin with this archetype, but one must speculate as to when this urban form actually first appeared. At what time did the homestead actually begin to be subdivided? Did this only occur after the second generation became landed, or did the original landholders immediately begin subdividing before building their own houses?


51. Ibid., p.91.

52. Ibid., p.92. This is how Geiger describes the adjustment of the old town to new forms of retail activity.

At first, the single-standing houses on ample “homesteads” were replaced by arcaded row-houses on narrow lots: strips, connecting two parallel streets with a light-shaft or court in the middle. As the shops under the arcade required more storage space, they gradually filled in the courts on the main floor. When electricity came, it was found that the shops did not need natural light and the sales area expanded into the entire main floor. Such large shops required more footage, however. Consequently, the window-fronts were bulged inward and soon these penetrations of public space connected the streets on both sides, creating covered passages along which small shops and tiny businesses could locate. Then it was found that the passages need not be confined to street level and connections were established in the basement and on mezzanines. Here, the pedestrian still moves in public space—not inside the shops but in an “interior-exterior” and profits from the rationalization of inside and outside that intrigued great architects like Carabuian. Soon, the shop owners were willing to do even more to lure potential customers and started to heat the passages in winter with infrared lamps, making the year-round operation of street-cafés and snack bars possible.
54. Ibid., p.91.
55. The population within the Inner City grew from 4,500-5,000 in the fourteenth and fifteenth centuries to 10,000 in the mid-seventeenth century, to 15,000 in the mid-eighteenth century, to 15,000 in 1810. Growth after 1810 occurred outside the Inner City, reaching 29,670 in 1810, 91,000 in 1910, 163,000 in 1960, 143,000 in 1980, and 134,000 by 1988. The urban agglomeration population stood at nearly 100,000 in 1980. From 1970 to 1988 the Inner City population declined from 6,268 in 1970, to 4,781 in 1980, and to 4,177 in 1988, reaching population levels comparable to those of the fourteenth and fifteenth centuries. The last outbreaks of the plague occurred in 1610-12 and 1626-28.
56. AliSuyayd, Cities and Caliphs. While the model of a "Typical Islamic Town" (p.32) bears a marked resemblance to the linear pattern of Bern, with a central market spine and secondary cross axes, it should be noted that the Friday Mosque and College (Madrasah) occupy the central position at the crossing of the axis. On p.22, the "Stereotypical Muslim City of the Middle East" shows a pattern somewhat different, with the Market (souq) clustered in one quadrant and the Public Square, Friday Mosque, and Palace occupying the central position. The Bazaar at Aleppo (p.105) shows a pattern similar to Bern with a linear "Colonnade Street turned Bazaar" set in a grid pattern of Greco-Roman origins.

A deviation of the Middle Eastern pattern occurs in Herat, Afghanistan, which presents some very interesting comparisons with Bern. See P. English, "The Traditional City of Herat, Afghanistan," in From Akedam to Metropoli, C. Brown, ed. (Princeton: The Darwin Press, 1973), pp.75-89. Herat, founded by Alexander (who gave the city its present form), was conquered by the Arabs in the seventh century. Herat became a major center of culture during the reign of Husayn Bajors (a Timurid prince from 1469-1506). The old city of Herat occupies a one-mile square bisected by two cross axes, each of which is a continuous bazaar, and which meet in the center at the Chahar Suq. What distinguishes Herat from the "typical Islamic town" is the peripheral location of all the public and religious buildings, just as in Bern.

It is further interesting to note the comparison with Bern in terms of the vitality (at least in 1973) of the marketplace. "The bazaars of Herat have 5,542 shops (see Table 1, p. 85) and an aggregate length of approximately six miles [compared to Bern's five miles of covered arcades]. The city has one shop for every fifteen citizens, indicating its importance as a regional marketing center for the million or so people who live in the valley of the Hari Rud." (p.84) Again the comparison with Galantay's figures for Bern and his comparison with New York and Montreal are interesting. Writing in 1975, English describes change over 2,000 years in Herat in great detail. ... Herat today is one of the most traditional large cities in Asia... Herat's functional structure, organization of space, and residential quarters differ from those ascribed to other preindustrial Islamic cities" (p.89).
59. See Schmocker and Weber, Alte Bern. Neue Bern for an extensive collection of photographs and old drawings of Bern's diversity of building styles and the changes that have occurred over the centuries.
65. Meier, Die City, pp.93-94.