



Even a brief examination of the thousand-year old history of Ukrainian church architecture reveals a great diversity in the appearance of both the large masonry monuments and the usually smaller vernacular wooden buildings. The contrast between the Cathedral of St. Sophia in Kiev (A) and St. George's Cathedral in Lviv (B) is guite obvious /Plate 1/. So is the difference between the Church of the Transfiguration in Chernihiv (C) and the Chapel of Three Saints in Lviv (D) /Plate 2/, and between the Church of the Assumption in Lviv (E) and the Church of All Saints in the Monastery of the Caves in Kiev (F)/Plate 3/. The contrasts between the Church of the Holy Protectress in Kharkiv (G) and the Church of the Assumption in Volodymyr Volynskyi (H) /Plate 4/, between the Church of the Holy Protectress in Nyskynychi (I) and the Church of St. Nicholas in Kiev (J) /Plate 5/, or between the Church of Transfiguration in Sorochyntsi (K) and the Church of the Nativity of the Virgin in Koselets (L) /Plate 6/ further exemplify this wide variety. The difference between St. Michael's Church from the village of Shelestiv (M) and St. George's Church in Drohobych (N) /Plate 7/, and between the Church of the Ascension in Yasinia (O) and the Holy Trinity Church in Novomoskovsk (P) /Plate 8/ points to perhaps even greater contrasts in the appearance of the indigenous churches built of wood. These contrasts can be observed in the overall shape of each building, in the shapes of the building's major components, e.g., domes, as well as in typical architectural elements such as pilasters, cornices, windows and doorways, or in various ornamental details. Yet, in spite of all the differences, these buildings, along with most other Ukrainian churches, seem to have a common character; a character which is rather sensed than consciously understood. In order to identify the architectural parameters of this common character, the churches mentioned above will be investigated according to a specific analytical method.<sup>1</sup>

A building is normally perceived as a three-dimensional object in perspective, as the photographs here illustrate. However, to describe a building accurately, drawing of plans, sections and elevations of the building are necessary. A plan represents the outline of a building at the ground (or at another level) in a horizontal plane. A section shows the building as if it were cut in a vertical plane and seen at 90 degrees from that plane. An elevation shows the building as seen at 90 degrees from any vertical plane, usually parallel to either the front, the rear, or the side walls of the building. thus a section and an elevation taken in the same direction will usually show the same exterior profile of the building. In addition, the section will show also the profile of the interior space and often the interior elevations of walls, vaults, domes and other spatial components. The plan normally implies the possible three-dimensional configuration of the building. However, many variants of each basic volumetric configuration, and therefore a corresponding number of building profiles, i.e., elevation and section configurations, may result from the same typical plan.

The rich variety in the appearance of Ukrainian churches results thus from the diversity of basic plan shapes, as well as from the many volumetric variants over each of these plans. The occurrence of a particular plan type and of particular types of major and minor building components is the result of specific historical and regional architectural determinants. Although of great interest, a discussion of these determinants, which arise out of complex political, cultural and geographic circumstances peculiar to each major historical period and geographic region, as well as out of a sponsor's or an architect's personal preferences, and thus lend to the development a style, lies outside the scope of this analytical study. They have been partially dealt with in several extensive historical surveys.<sup>2</sup> Of special interest here are the buildings themselves and particularly those architectural aspects which contribute to their common character. The great variety of typical plan shapes and of typical shapes of the various building components, whose stylistic context will be only touched upon, suggests that this unique character does not derive from any particular plan type or any other particular stylistic features. Rather, it is to be found in specific proportions of the various architectural elements and primarily in the major dimensional relationships of the building profile as revealed in a section or an elevation. In order to understand the essence of these relationships, the elevations and sections will be studied as geometric abstractions.

The method of geometric abstraction has a long history. In the earliest surviving treatise on architecture, the Roman architect and theorist, Vitruvius, described the visual harmony of the human figure in terms of geometric figures.<sup>3</sup> Illustrated by, among others, Leonardo da Vinci, Vitruvius' abstraction shows the figure of a man inscribed into a square and a circle and thus emphasizes the geometric basis of the dimensional relationships inherent in the human body (Q). In a similar way, architecture has been described and designed on the basis of particular geometric systems. Numerous analytical studies of well known architectural monuments have been undertaken, in which entire buildings and their component parts have been inscribed within distinct geometric compositions (R) /Plate 9/. In this method the detailed outline of the building is not necessarily followed, but key points are established and their alignment identified in order to achieve a clear indication of the governing geometric pattern.

In our study the exterior profiles of the churches selected are inscribed into a series of rectangles which correspond to the position of major volumetric components of the roof. Depending on the direction of the typical profile, which occurs either along or at 90 degrees to the east-west axis of each church, and on the documentation available, the diagrams are based on either the lateral or the front or rear elevations or on the relevant section of the building. In all cases the aim has been to establish the external limits of the profile, as



S















Plate



Plate





Plate

The first of four sample diagrams shows (S). Letter a, b and c, shown in the next diagram (T) /Plate 10/, represent the horizontal dimensions of the tower elements at their respective bases, with b referring always to the central tower. The letter z represents the vertical dimension of the principal building walls taken to the main cornice or eave. Letters y and y' represent the vertical dimensions of the lateral tower elements above that line of the wall, and letters x and x' the vertical projection of the central tower element above the respective lateral towers. Letters l and m indicate the horizontal dimensions of any gaps between a and b and b and c, respectively. In buildings whose profiles are symmetrical c is assumed to be equal to a, and m equal to 1. Where the lateral towers overlap the central one, the difference in the horizontal distance between their respective vertical edges is considered as a (U), and in cases where there are no lateral towers, the distance to the highest point of the lower roofs above the cornice or the eave, including any pronounced decorative elements, is considered as y (V) /Plate 11/. In the first instance four typical examples of vernacular architecture will be examined. Beginning in the West and moving to the East of the country one encounters initially the Lemko type (M). This type is distinguished by the characteristic three consecutive roof volumes, the central being the largest and the western, over the narthex, the tallest, (M1). Next is the Boyko type (N), which also consists of three consecutive, usually concentric, volumes, the central one being the largest. The western and eastern volumes are often similar, but usually subtly contrasting, yet as a rule lower than the central one (N1) /Plate 12/. The third type is the Jutsul type (O) which is based on a Greek-cross plan where the central volume is concentric and the tallest, while the other four volumes over the equal arms of the cross are lower and usually covered by a ridged and gabled roof (01). The fourth type (P) which prevails with substantial height variations in Podilia, central and eastern Ukraine, is related primarily to the Boyko type and consists of either three volumes (as it prototype), five volumes (based on the Greek-cross plan) or, exceptionally, nine volumes, with the central volume emerging as the tallest element (P1) /Plate 13/. The north and south volumes in the Greek cross plan churches may be seen as additions to the functionally more expressive tripartite Boyko type. As examples of indigenous folk architecture and thus of gradually evolving regional trends, the many variants of these four types must be considered as the most authentic Ukrainian buildings. While contrasting, not only in the three-dimensional, perspective, appearance, but also in their detailed elevation profiles, their abstracted geometric configurations show essentially common rhythmic relationships. Moving from left to right or from right to left of each of the four diagrams representing the four major vernacular types described above (M1, N1, O1, P1) one can observe the pronounced a-b-a or a-b-c rhythm, where the values of a and c are smaller than the value of b in each