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ESSAYS PRESENTED TO
D. KENNETH SARGENT

THE SCHOOL OF ARCHITECTURE
SYRACUSE UNIVERSITY SYRACUSE, NEW YORK

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THE DEVELOPMENT OF STRUCTURAL FORM IN FRANCONIAN ROCOCO

MICHAEL WARMINGTON EARLS

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The final translation of Baroque ideas into structural form came at the end of the period, during the movement usually termed Rococo, when a full flowering of the structural and spatial dexterity, which germinated in 17th century Italy, blossomed in Central Europe. Just as the gothic movement, which arrived there late, but, once digested, was continued, while the experimentation in structural possibilities and the spatial arrangements they allowed, was explored, long after France, the originator, had adopted a new style, so the German Rococo terminated the Baroque movement with an autumnal splendour.

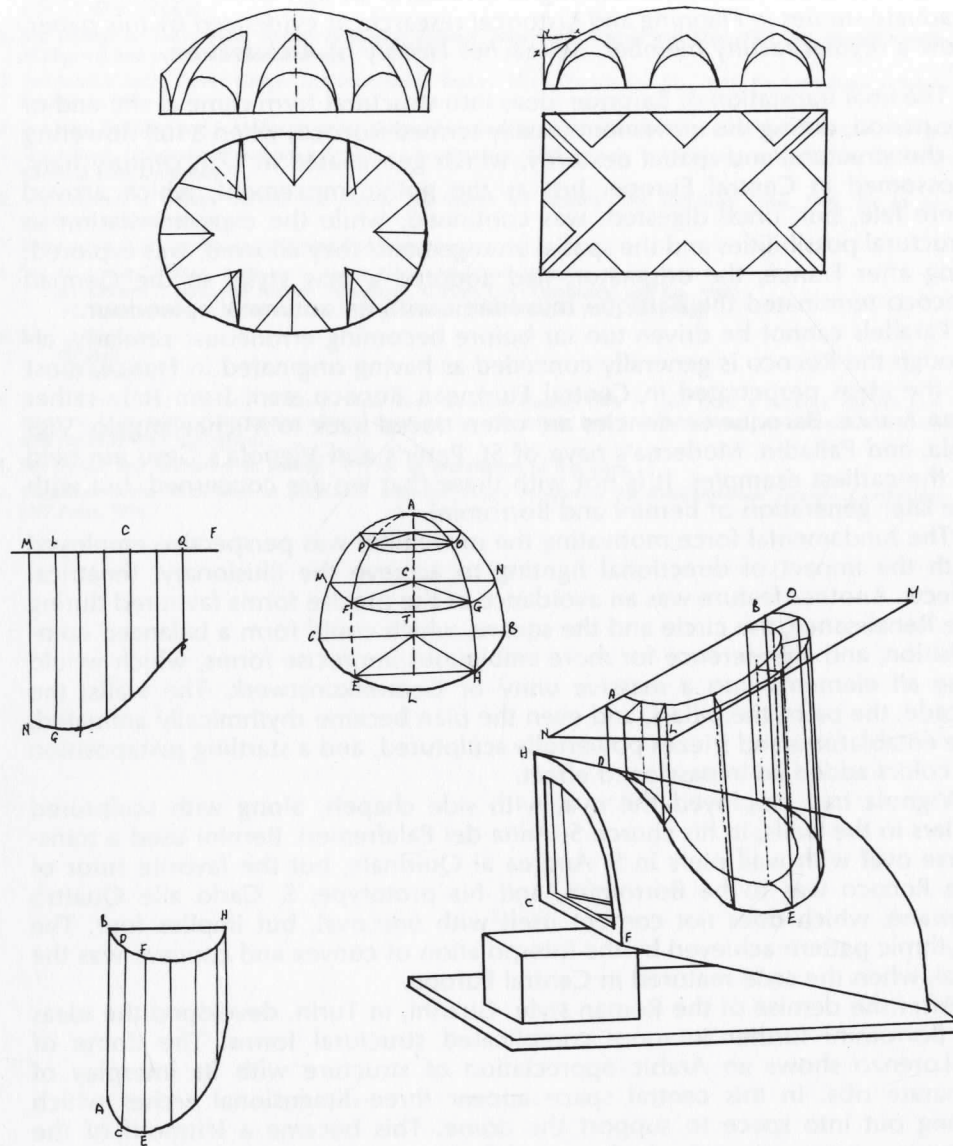
Parallels cannot be driven too far before becoming erroneous; similarly, although the Rococo is generally conceded as having originated in France, most of the ideas perpetrated in Central European Rococo stem from Italy rather than France. Baroque tendencies are often traced back to Michaelangelo, Vignola, and Palladio. Moderna's nave of St. Peter's and Vignola's Gesu are held as the earliest examples. It is not with these that we are concerned, but with the later generation of Bernini and Borromini.

The fundamental force motivating the movement was perspective employed with the impact of directional lighting to achieve the illusionary, theatrical effects. Another feature was an avoidance of the precise forms favoured during the Renaissance, the circle and the square, which could form a balanced composition, and a preference for more ambiguous imprecise forms, which would fuse all elements into a massive unity or Gesamtkunstwerk. The walls, the facade, the piers, the pillars, and even the plan became rhythmically animated, the entablatures and friezes powerfully sculptured, and a startling juxtaposition of colors added an impassioned effect.

Vignola had employed the oval with side chapels, along with sculptured pillars in the walls, in his church S. Anna dei Palafrenieri. Bernini used a transverse oval with wall piers in S. Andrea al Quirinale, but the favorite tutor of the Rococo was to be Borromini, and his prototype, S. Carlo alle Quattro Fontane, which does not content itself with one oval, but implies four. The rhythmic pattern achieved by the interpolation of convex and concave was the goal, when the style matured in Central Europe.

After the demise of the Roman style, Guarini, in Turin, developed the ideas of Borromini further in more complicated structural forms. The dome of S. Lorenzo shows an Arabic appreciation of structure with its interplay of separate ribs. In this central space appear three-dimensional arches which swing out into space to support the dome. This became a leitmotif of the Rococo movement, and whether used for structural or merely visual effect, was universal. Guarini's experiments were to become the foundations of the Rococo essays in spatial arrangements, for his geometric experiments now

could be proved by the newly developed calculus. He established the oval dome as an appropriate vault for the longitudinal space, thereby reconciling the two antipathetic shapes: the long axis, favored by the liturgy of the counter-reformation and the central plan so beloved by the spatial idealists. He explored various methods of vaulting ovals, circles, octagons, and longitudinal areas on the curve, and segmentary forms, with ribs and barrel vaults and oval domes, whose edges overlap for structural rigidity, intersect for spatial complexity, and achieve an undulating movement in the plan, walls, and ceiling.



Drawings by Guarini

Guarini's designs shows a continual search for movement and an unceasing experimentation in innovative vaulting patterns. His drawings, published posthumously in "*Architettura Civile*" exhibit his concern for experiment and portrayal by geometric analysis of intersecting arches springing from squares and circles. He showed by projection the sections of spheres and oval domes, the vaulting of a rectangle with the latter, and the penetration of the oval by a barrel vault. He was exceedingly advanced in the isometric portrayal of the intersections of geometric shapes, that of a drum on a barrel vault, and the junction of a barrel vault with a sphere. There are explicit drawings explaining the construction, and the ceiling patterns so obtained. His virtuosity was as resourceful as a concerto, piling new permutations and computations, to be solved only in the final unity. We have to rely, very much, on his designs rather than his commissions for his later ideas, since they were either not constructed, or have since disappeared, e.g. S. Maria della Divina Provvidenza, Lisbon. But his ideas fell on fertile ground in Central Europe, where they were pursued with zeal and put into effect by Hildebrandt, the Dietzenhofer family, particularly Christoph, Johann, and Kilian, and Balthazar Neumann.

The Kingdom of Bohemia in the 18th century formed part of the Holy Roman Empire and, more important, was one of the Hapsburg domains, which included among others, Northern Italy, Austria, Hungary, Moravia, Silesia, and Croatia. The imperial capital was Vienna, but other national capitals, e.g. Prague, Budapest, Pressburg, were also influential. Cross-currents of communications were strong with relations and possessions in the electorates, dukedoms, prince-bishoprics, and earldoms into which Germany continued to be divided. The Slavic Czechs had rebelled a century before, led by the young impetuous Frederick, Elector Palatine, whose Protestant forces had been defeated at the Battle of the White Mountain (1618). Bohemia had been subjugated by an Austrian nobility who championed the Emperor and militant Catholicism. Power was expressed in architecture by the Baroque or Kaiserstil. While most of the German territories were to adopt the playful Rococo style emanating from the France of the Regency and Louis XV, Bohemia and neighboring Franconia (Northern Bavaria), continued to show their preoccupation with the structural and spatial experiments of Guarini.

Italian architects first brought the new style north of the Alps. The Italian Swiss were predominant in Southern Germany. Northern Italians were subjects of the Hapsburg Empire and continued to supply their architectural talents throughout the imperial domains. Hildebrandt, in spite of his Teutonic name, was born in Genoa, and preferred to speak Italian all his life. However, by the end of the 17th century, an increasing number of commissions were given to native architects, who, nevertheless, continued to find Italian architecture the model, and spent many years studying in Italy, e.g. Fischer von Erlach, Lucas Hildebrandt, and the Dientzenhofer family of architects.

Italian form permeates the Dreifaltigkeitkirche, an early church of Fischer von Erlach, at Salzburg, that Rome of the Alps. Here he used a pure domed oval for the directional nave and added axial niches for the side chapels. His later, more famous work, the Karlskirche in Vienna, also possesses an elliptical dome but with a drum. This form contrasts with the broad sweep of the facade. Apparently the sides of the building were not meant to be exposed as they stand today. The interior spaces are more monumental and also more differentiated than in the Dreifaltigkeitkirche.

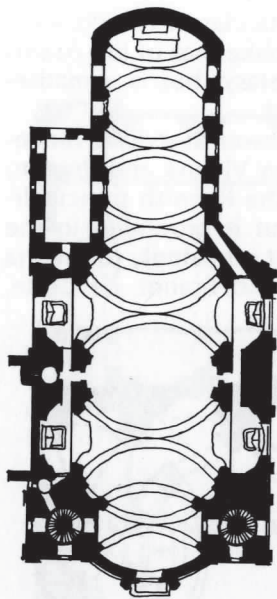
Fischer von Erlach's great rival and collaborator, Lukas Hildebrandt, perhaps being more familiar with neighboring Piedmontese developments, shows a

marked influence of Guarini's work in his commissions in Vienna, Bohemia, and Franconia, and added a touch of Viennese stylishness to Italian innovation. He was consulted by the aristocracy for their new city and country palaces which proliferated in the Bauwurm after the defeat of the Turks. In his church at Gabel in Bohemia, Hildebrandt employed many of the technical devices used by Guarini in S. Lorenzo in Turin, but allowed the three dimensional bearing arches a more structural role by swinging out to support the central dome. Hildebrandt's Piarist church, Maria Treu in Vienna, with its subtle blending of spaces, its central area, almost an octagon with convex sides, and its deep side chapels, was to have a powerful influence over the Dietzenhofers. Hildebrandt's other church, svatý Vavrinec at Jablonné, in Bohemia, although constructed in the grand style of Viennese Baroque, has a similar intricate inter-spatial relationship, achieved by means of a Guarini-type structure and was certainly known to the Dietzenhofers.

Guarini's influence left a strong impression on that famous family, who were to spread the new ideas of spatial and structural organization from Bohemia into Franconia. If Guarini, and even Borromini, had a Gothic touch to their structural methods, then the Dietzenhofers allowed the rich tradition of Gothic innovative structure to reappear in their structural solutions.

It is not surprising that the Bohemians should display their preoccupation with the technicalities of vaulting, when one remembers that Bohemia enjoyed a late flowering of superb Gothic vaulting during the 16th century, associated with the names of Rejsek, Jacob Heilmann, and Benedict Ried. Just as England continued to produce some of her finest vaulting at the very end of the Perpendicular period (Henry VII's Chapel, Westminster, King's College Chapel, Cambridge, Christchurch College, Oxford) when the Renaissance was already spreading through France, Bohemia reached its peak in vaulting technique simultaneously with England. For the vaulting in the nave at svatá Barborá, Kutná Hora, or in the Vladislav Hall, Hrad ranks with any produced at the time in Northern Europe. The similarity between Baroque and Gothic structure is shown by the ease no less than the versatility of Santini, who was able to remodel such buildings as the abbey church Sedlec, Seelau, and the pilgrimage church svatý Jan Nepmucky, so harmoniously. Whereas the Gothic style never completely perished in England, but made appearances throughout the Baroque period in the nostalgic exercises of Wren, Gibbs, and Vanburgh, so it remained in Bohemia (Kladruhy). But it was more than the details of the style which emerged: rather a profound appreciation of the structural principles and joy of experimentation, found in the Gothic architecture, reappeared under a new decorative scheme, with the "boehmische Kappe" as its hallmark. Guarini's Gothic or Arabic approach to structural configurations became extended by native tradition.

Christoph Dietzenhofer's first church to show the influence of Guarini was probably the small abbey church at Oboriste in Bohemia, which has an oblong chancel and gallery attached to a nave composed of two ovals, set across the main axis. They are overlapped by an implied third oval, which is really only a flat circular dome, supported by the groins of the other ovals. This was a modest beginning for the new style which was to conquer the kingdom. When he built the church of svatá Klará in Cheb, on the border of Franconia, Christoph Dietzenhofer chose for the nave two transverse ovals which do not quite touch each other. This method appears to be the prototype for the vaulting system employed at the great abbey church at Banz, north east of Würzburg. Banz was begun two years later than svatá Klará, and was under the super-



BANZ 1710-1718

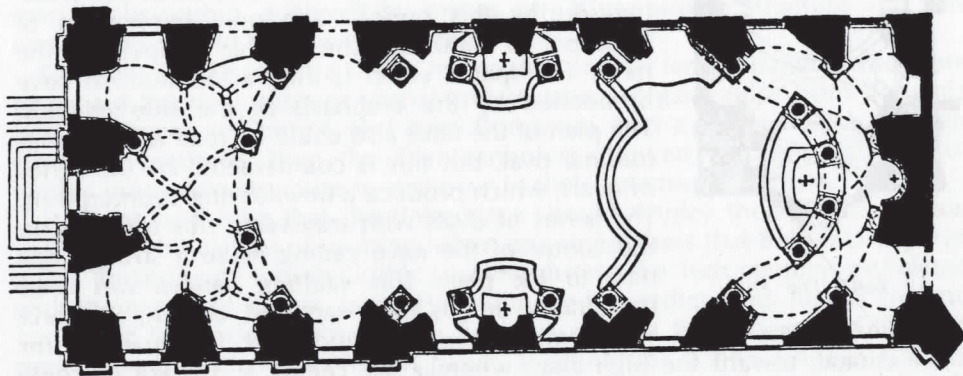
vision of Johann Dietzenhofer. Although Johann had just been engaged on the cathedral at Fulda, there is a large gulf between the defined spaces of Fulda and the spatial fusion of Banz. Johann had also been employed on Schloss Pommersfelden, under the tutelage of Hilderbrandt. At Banz the nave and choir are vaulted with a series of ovals which are emphasized by wide bands. This system of vaulting is daring but difficult to grasp because of the number of patterns evolving. The plan could be described as consisting of a nave and choir. Transepts already had diminished to rather large side chapels at the crossing, during this period. The only implication of transepts at Banz are the double chapels in the nave. The spatial effect is then a longitudinal nave broadened by the emphasis of the side chapels. The plan of the nave also could be read as one longitudinal oval, but this is counteracted by the series of ovals, which produce a bewildering counterpoint. The series of ovals with transverse ribs touching in the centre of the nave ceiling make a strong contrast to the plan. This vaulting pattern was used by Guarini, in his now vanished church, S. Maria della Divina Provvidenza, in Lisbon. At Brevnov and Banz the spatial form is directional, toward the high altar, whereas the ceiling is a maze of complexity. At Brevnov the ovals create a variety of shapes, large and narrow ovals and stretched, elongated octagons, a motif echoing Maria Treu. At Banz, although the ovals are clearly outlined with the wide bands, they overlap so frequently, or are subdivided by smaller ovals, that a clear pattern is well nigh impossible to detect. Here we see some of the motifs to become predominant in the future. In the centre of the nave is a large oval, but instead of forming a clear defined area, it is subdivided, so that where one would expect the apex of the ovals, on a transverse line joining the side altars, one is confronted with the extremities of other ovals, clearly defined by the wide bands. There is a constant and deliberate attempt to construct the opposite of what one is expecting, and to emphasize the fact. This pattern was to be reconstructed across the river in Vierzeñneiligen.

Kilian Dientzenhofer, the son of Christoph, was to be as prolific in church designing as Johann Michael Fischer, with whom he shared the same dexterity in alternating octagons, squares, circles and ovals. He was influenced by the same sources as Balthazar Neumann, Borromini, Guarini and Hildebrandt. French influence appears too, but Guarini's emphasis on structure is only faintly reflected, so he is given only a short mention here.

Balthazar Neumann (1687-1753) follows in direct tradition from Guarini. Unlike Zimmermann (1685-1766), Asam (1692-1750) or Thumb, who were very much in the tradition of medieval masons in conservative Bavaria and Swabia, he was court architect to the famous Schönborns of Franconia, although he was engaged by their powerful relations elsewhere. He was employed by the Prince-Bishops as their military engineer, but these duties became negligible and he was able to devote his time to architecture. In this role he can be compared with Michaelangelo, who had also been employed on fortifications, and Christopher Wren who was originally a mathematician. His role was similar to

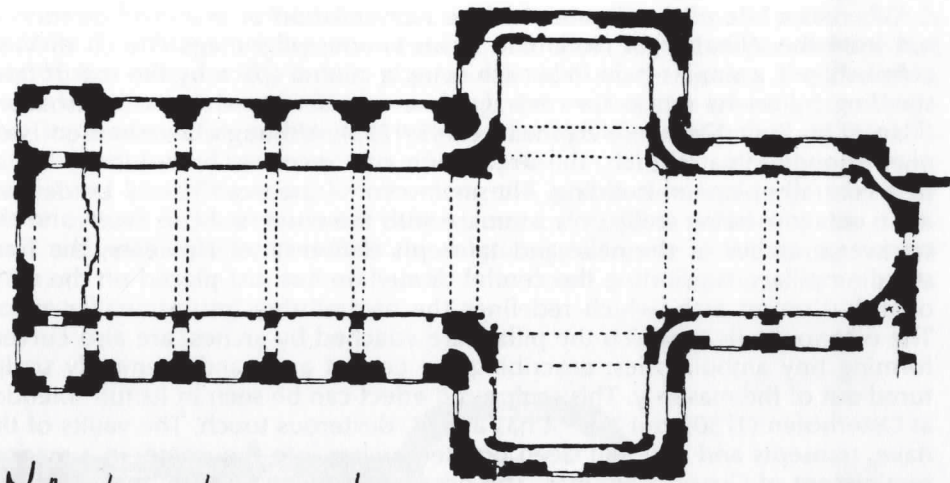
that of the court architects of France and Vienna, in particular of Hildebrandt, with whom he worked on several occasions. His style, unlike that of the Asams does not seek to overawe and excite into religious ecstasy, but is a mathematical and geometric exercise in structural counterpoint.

Franconia lay under the influence of two of the most powerful stylistic movements of the day: the Imperial Baroque emanating from Vienna and Prague; French Classicism radiating from Paris, and adopted in the Rhenish principalities. Franconian Rococo is no local provincial style, but is grounded in the cosmopolitanism of two capital cities. Neumann was sent repeatedly to Vienna and Paris to consult the leading architects of the day, Hildebrandt, de Cotte, and Bouffrand.



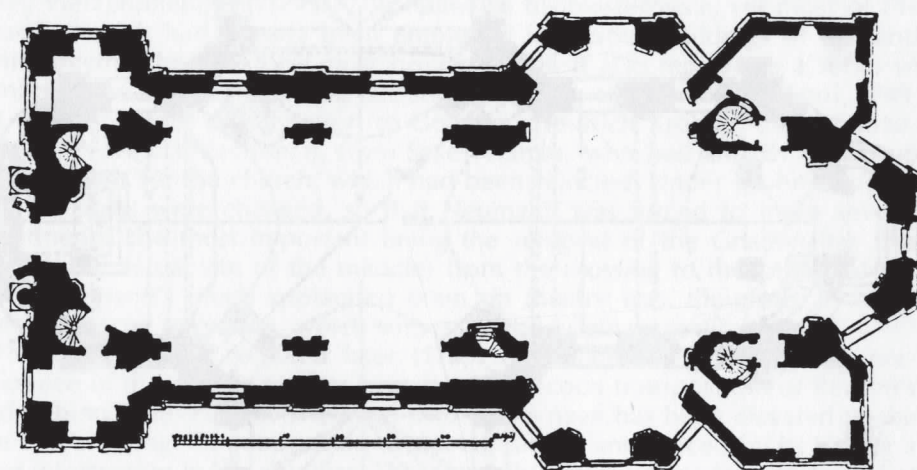
The cosmopolitan strands in Neumann's education appear pronounced in the Würzburg Hofkirche, completed in 1733. Here the French Classicism of de Cotte and Bouffrand and the Austrian Baroque of Hildebrandt are merged with native tradition. The characteristic friction, found in Baroque churches in Germany, between a longitudinal and a central space, is resolved by the use of ovals, a solution already applied at the Hofkapelle at Werneck in 1733. In comparison with this early work of Neumann's the rotunda at Murnau (1725-27), by Fischer (1691-1766) appears clumsy with its unusable corners. Neumann had already achieved an easy facility, and at Werneck shows a dexterous manipulation of the piers, which appear as free-pillars, so that the walls seem to dissolve. This last effect was another overriding goal of architects of the late Baroque-Rococo period, and was used with audacity by Poppelmann at the Zwinger (1709-19) in Dresden, Saxony, an Electorate north of Franconia, bordering Bohemia. The arrangement of free-standing pillars shows its ideal solution in Zimmermann's church at Steinhausen (1727-33), which boasts an oval supported by free-standing pillars. However, besides constructing an ideal space, Neumann had to achieve a structural solution in stone. At the Würzburger Hofkapelle he used overlapping ovals for most of the rectangular nave, which is terminated by the Rococo equivalent of Gothic ribbing.

His church at Münsterscharzach (1727-1743) appears as a traditional Langbau-Wandpfeilkirche, that is a longitudinal church with wall piers. It is centralized by means of a high dome over the crossing, which brings all parts into a unity and centralized fusion of the longitudinal and central axis. The nave, transepts, and choir are no longer the separate entities to be found in the churches of the 17th century, but already approach the total unity (*Gesamtkunstwerk*)



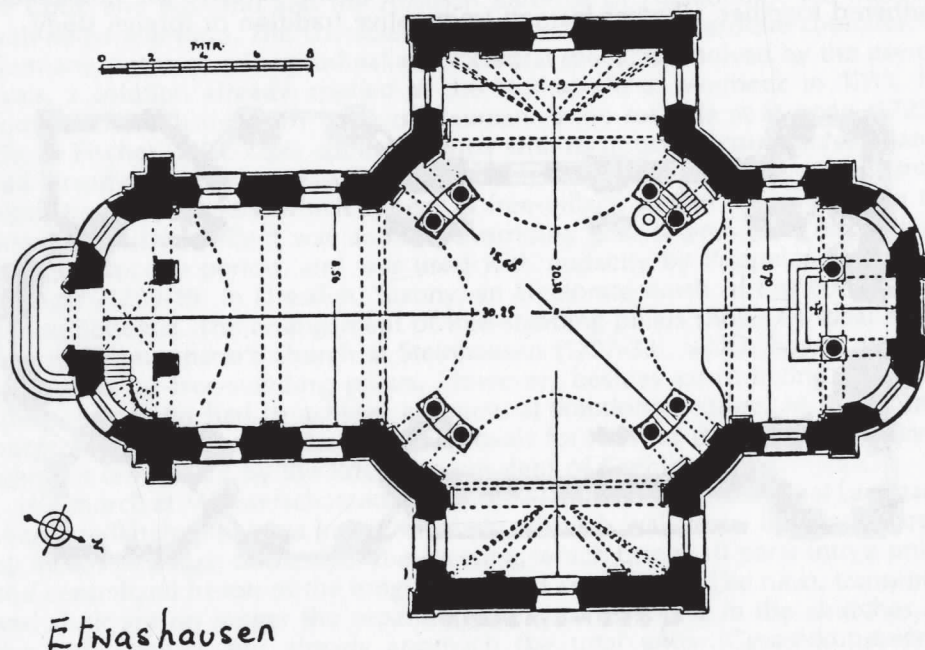
Münsterschwarzach

which was the aim of the Rococo. Gössweinstein (1730-39) is even more heavily centralized. The transepts have disappeared into polygonal niches, and the traditional Franconian church, e.g. Maria Limbach (1751-56) or Amorbach (1752, architect J. M. Schmidt), has become an Austrian Baroque open space, with high shallow side chapels, which form narrow passageways along the sides of the nave, and cut through the wall piers, which now have a wider, stronger binding with the walls. Neumann used both the wall pier system and the free-standing pillar system, the latter employed with such dazzling effect in Southern Bavaria and Swabia. In Neumann we perceive all possibilities gathered together, whether learned from native tradition or foreign study.

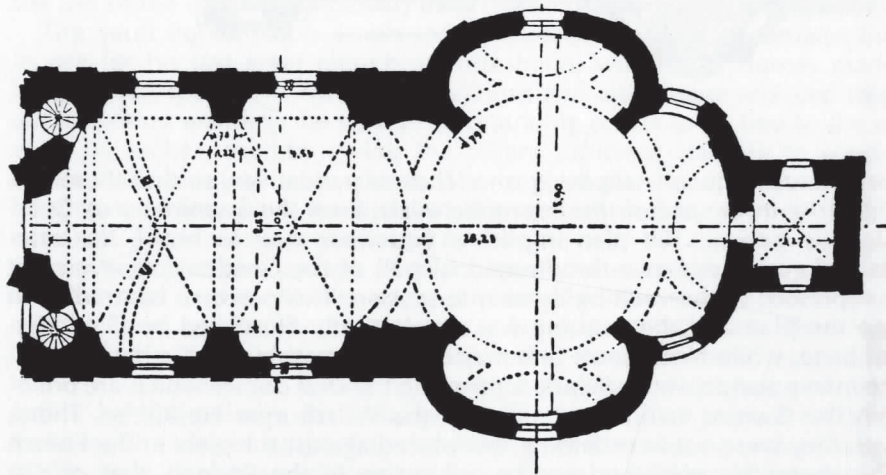


Gössweinstein

Whereas a line of development in the manipulation of piers will be seen to run from the Würzburger Hofkirche to his famous pilgrimage church of Vierzehnheiligen, a similar train in his achieving a central space by the use of free-standing pillars to support a central dome can be traced from Etwashausen (Plan 1733, Built 1745) to Neresheim (1745-1792). Although Etwashausen is on plan a longitudinal church, the impression one receives, once inside, is that of a centrally planned building. The main central area can hardly be defined as an octagon, being really only a square with the corners sliced away, and the transverse arches of the nave and transepts define it so. However, the free-standing pillars, supporting the central dome, are not just placed on the diagonal, but on an arch, which redefines the central area into a circular space. The exterior walls to which the pillars are attached by arches, are also curved, forming tiny ambulatories, enscribing the central area, and seemingly sculptured out of the masonry. This sculptured effect can be seen in its full splendor at Osterhofen (1730), but here it has a light, dexterous touch. The vaults of the nave, transepts and apse cut deep pointed arches into the dome, in a manner reminiscent of Guarini's designs. The decoration being Spartan, makes no differentiation among the geometric elements, allowing clarity to the structure. The pointed arches suggest a Gothic structure, which appears too in the transepts. The transepts are shallow and merely extensions of the central space. Pillars supporting a central dome had been used for visual effect in St. Louis des Invalides (1675-1706), and for structural effect in de Cotte's Schlosskirche (1714) at Schleissheim. Neumann grasped this feature and was to inject it with adacious assurance into Neresheim, for his final *coup de main*. For the movement of the late Rococo towards the fusion of space it was a welcome innovation, and is paralleled by Zimmermann's free-standing rotunda at Steinhausen (1727-33). The geometric analysis of piercing a dome with a barrel-vault had been researched by Guarini, but the inter-relationship of spaces was Neumann's.

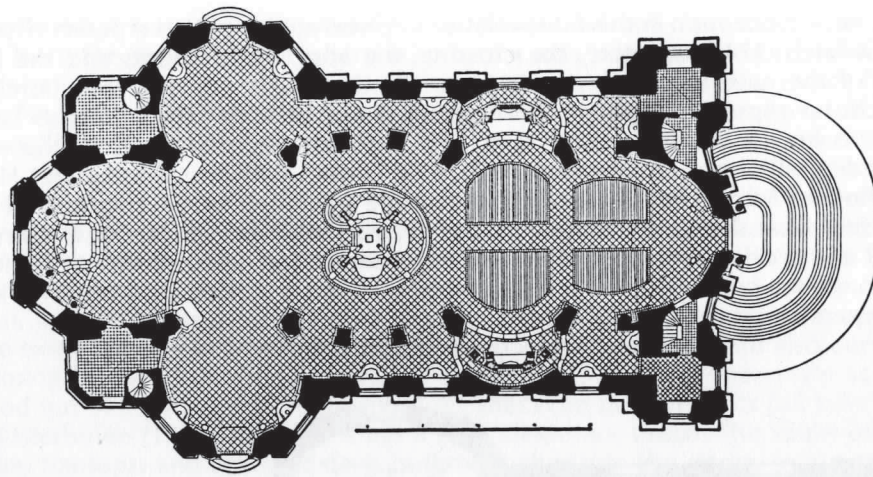


A new conception in this inter-relationship was achieved in the parish church at Gaibach (1742-45). Here, the crossing, the apse, the transepts and the last bay of the nave are shown on plan as elliptical spaces, giving the church a cruciform appearance. Yet in the vaulting, the oval of the crossing is so large that its border is so extensive as to pass through the mid-points of the surrounding ellipses. The construction has similarities with the Würzburger Hofkirche and Banz. There is conflict among the spatial elements emphasized by the structural skeleton frame. A calmer, more simplified version of the structural and spatial pattern exists in the pilgrimage K ppele at Wurzburg, where although the crossing is vaulted by a circular dome, a similar discrepancy arises between the vaulting and the plan.



These smaller churches provide a series of themes and provisional solutions for the great works with which Neumann was to occupy himself in the future years. Vierzehnheiligen (1743-72) is hailed as his masterpiece, yet most of the ideas behind it had already been employed in various buildings of his, and come together here in their most brilliant form. It also represents a series of compromises. To cut an oft-told tale short, building commenced in April, 1743, but was left under the direction of Gottfried Heinrich Krohne, the Landbaumeister (Provincial Architect), from Saxe-Weimar, who had already drawn up his own plans for the church, which had been rejected. Under Krohne's direction the plans were changed, so that Neumann was forced to make several adjustments, the most important being the removal of the Gnadenaltar (the altar on the actual site of the miracle) from the crossing to the center of the nave. Neumann's much applauded *coup de theatre* was, therefore, to some extent, a rescue operation, which surpassed the original creation.

The Gnadenaltar, executed later (1763) by K chel, by usurping the pre-eminence of the choir altar, has become the Rococo transposition of Bernini's Baldacchino in St. Peter's. The large oval in the nave has been elevated to the role of a crossing. The deposition of the crossing is announced by its having a mere intersection in the vaulting. This naturally arouses a fundamental conflict with the ground-floor plan, which suggests a normal basilica on the exterior, translated in the interior into three longitudinal ovals and two circular transepts. Drums were frequently omitted from the dome construction during the

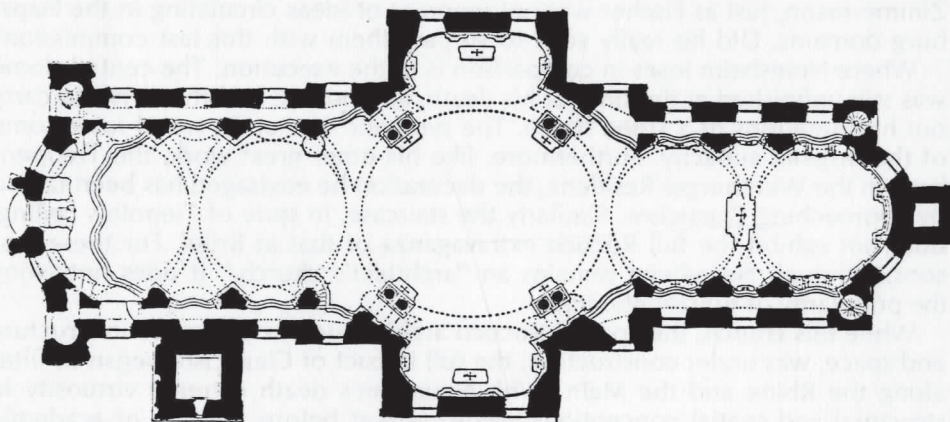


Rococo period, frequently reposing on arches or pendentives, so that there was no irregularity in the use of the imprecise ovals. Even the asymmetry of Guarini's plans is lacking. The plan implies a transverse oval to house the side-chapels and counterbalance the directional pull of the Gnadenaltar, even if it is only expressed in the vaulting by an intersection. This perverse contradiction between the plan and the vaulting was emphatically illustrated by Dientzenhofer at Banz, while Neumann's first major demonstration was Gaibach (1742-45). The manipulation of the pillars, supporting the oval domes which are penetrated in the Guarini manner, emerged in the Würzburger Hofkirche. There, however, they were not freestanding, but placed against the piers in the French style. Neumann accomplished another objective of the Rococo, that of dissolving the walls. *Vierzehnheiligen* cannot, therefore, be understood at one glance, but has to be explored to be fully comprehended. It is the apogee of spatial counterpoint and, according to Hauthmann, the last station in a line of development, which began with Munich's Theatinerkirche (1663-1675).

In *Vierzehnheiligen*, vaulting regains the high status which it enjoyed during the late Gothic period. One is tempted to compare Balthazar Neumann with Benedict Ried, not for any similarity of constructional practices but for his application of radical solutions to vaulting problems. Another similarity, is the vertical element in the fusion of space. Only the top portion of the entablature encircles the interior, while the frieze and architrave are restricted to the pillars and corner piers. The three dimensionally curved supporting arches are only lightly outlined, promoting unity between the structure and the form, whereas at Banz, the arches were heavily expressed. All the flat vaulting of the dome was constructed in one piece, because of its three-dimensional nature. It is made of stone and has thick mortar joints, and is strengthened with reinforcing iron bars, very much like the reinforcing of concrete. Not only did Neumann anticipate the construction of reinforced concrete, but intuitively at least, also the difficulties of shell construction. He paid attention to the weakness of edges of the shells. Over the crossing of the nave and transepts there are no supporting bands or arches, these are the edges of the shells. The bands which are visible are not functional as supports, for they are only modelled in stucco. The strength of the vault comes from the shell formation of the vault. In the

masonry work too are concealed more tensile bars, which stretch over all window apertures and interior bearing arches. The iron reinforcing laces all bearing members together one with another. The piece de resistance of Neumann's vaulting technique is surely the Treppenhaus in the Würzburger Residenz, where one dome spans fifty-four feet (18 meters) and covers the whole space dedicated to the processional stairway of the Prince-Bishop's palace. So much has been written already on this stairway, that the subject has been deliberately avoided here. It suffices to say that the stability of the dome was able to withstand the bombardment of the advancing Allied armies during the last war. Neumann's attachment to his design was such, that he allowed Hildebrandt to make any changes on the designs for the palace, except on the staircase. The dome illustrates how far Neumann's technique had advanced, in reducing weight, displacing the load-bearing points towards the interior, and the use of the iron tensile bars to bind the whole construction together.

The vault construction employed at Vierzehnheiligen, Neumann intended to use for his last great church at Neresheim, where five domes made up a longitudinal space. The traditional galleries and aisles were reduced to narrow ambulatories, enabling the slender freestanding pillars to be tied to the exterior walls by arches, thereby giving the pillars sufficient stability to support the almost half spherical center dome. The original plan for the church showed a long nave of four bays, enclosed at the western end by towers, flanking the entrance. There was a pronounced oval dome over the crossing, supported by piers. There was also a choir of two bays and a semi-circular apse,—rather a conventional layout. At this stage, it resembled the second project of Vierzehnheiligen, and Boffrand's St. Jacques at Lunéville (1730-1745). Then Neumann introduced a third idea, taken, presumably, from the new Jesuit church at Mainz (1742 plan), i.e. a long nave with half pillars which are connected together by the galleries for stability, similar to the first project for Vierzehnheiligen. The idea of supporting the dome over the crossing with pillars, joined to the piers is also a variation on the scheme at Mainz. Although the main point of attention in Vierzehnheiligen, is not the crossing but the oval of the nave, it is still in the form of a Latin cross, whereas, Neresheim takes the shape of a Greek cross. The prototypes for Neresheim are Weingarten and Donauwörth, but these have independent spaces around a central space, whereas, in the final execution of Neresheim, the transepts are no longer independent



Plan

elliptical spaces, but extensions of the central space. This consists of an oval dome, supported by pairs of free-standing pillars, similar to that at Etwashausen. The vaulting of the nave consists of two transverse ovals, supporting circular domes. The vaulting of the choir, reproduces that of the nave, in a smaller scale, producing a perspective element, similar to that obtained in Fischer's church, Berg am Laim (1737-51). The braces of the ovals spring from the free-standing piers, which are sculptured to appear like pillars. From the galleries one can best read the plan in its lively spatial curvature. The movement of the walls, which are no longer walls, but piers and galleries, seems to reflect the swing of the vaulting. The galleries connect the piers by means of three dimensional arches, and produce the illusion of a hollowed ambulatory wending its way around the church. Around the central space, there is an ingenious interplay above, from the three-dimensional arches of the oval rotunda, as they descend on to the free-standing pillars, and go from one pair of pillars to the other and to the exterior wall, and connect with the ribs coming from the piers, which are supporting their oval domes. Here again, the domes do not rest upon barrel vaults, as in the traditional pier system, but are supported by three dimensional arches. The central space has no direct lighting, only indirect, which filters between the pillars of the pointed arches into the central area.

Hauttmann finds Neresheim a triumphal conclusion to a train of development running through Gaibach, Etwashausen, Gössweinsteinsten, Münsterscharzach, Würzburger Hofkirche and Vierzehnheiligen. Here, he says, one finds the basilica church has been united with the wall pier and the central space church in one peak of achievement. Here are Fischer's Ottobeuren (1737) and Rott am Inn (1759), and Zimmermann's Wieskirche (1746) and Steinhilber (1727). "All here in one bed lay." This is the crowning movement which was heralded by the Michaelskirche and ended with Winckelmann. Neresheim does show a strong resemblance on plan to Rott am Inn, which has a massive central dome, side chapels and corner chapels which extend the central space. It has two identical areas on either side of the dome as at Neresheim, although only one dome each. However, in Fischer's church the domes are supported by transverse arches—a more conservative approach, so although it strives toward the same effect, it is not achieved with the same facility in spatial movement.

Certainly Neumann exhibited his familiarity with the academicism of Boffrand and de Cotte, and he was aware of the achievements of Fischer and Zimmermann, just as Fischer was not ignorant of ideas circulating in the Hapsburg domains. Did he really seek to surpass them with this last commission?

Where Neresheim loses in comparison is in the execution. The central dome was still unfinished at the time of his death, and no one had the nerve to carry out his intentions of a stone dome. The synthetic version in wood loses some of the original audacity. Furthermore, like his other great work, the Treppenhäus in the Würzburger Residenz, the decoration he envisaged has been tamed by approaching Classicism. Similarly the staircase, in spite of Tiepolo's ceiling, does not exhibit the full Rococo extravaganza of that at Brühl. For these reasons, although Neresheim remains an "architect's church," it does not enjoy the popularity of Vierzehnheiligen.

While this church, the apex of Rococo architecture, as expressed in structure and space, was under construction, the full impact of Classicism began to filter along the Rhine and the Main. With Neumann's death extreme virtuosity in structural and spatial conceptions was to retreat before the tide of academic precision and the authority of recent archeological discoveries. Rococo decoration lasted a while longer before sinking into rusticity. The social pattern

which had patronized the movement was to be swept away by the Napoleonic reforms a generation later.

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