

## Citation

Elke Nagel: Five Steps Downhill. The typological sequence of Carthusian architectural adaption to new surroundings, 24. December 2015, <http://mittelalter.hypotheses.org/7336>.



## Five Steps Downhill

### The typological sequence of Carthusian architectural adaption to new surroundings

*by Elke Nagel*

Architecture provides a shell for monastic life ever since. More than others, the eremitic order of the Carthusians relies on seclusion from the world by the built environment. This contribution to session 516 of the Leeds International Medieval Congress 2015 summarises the results of a PhD research project run at Technische Universität München between 2006 and 2012 on Carthusian Architecture<sup>1</sup>. The shortness of the speeches necessitates the constraint on presenting a part of the study's results on architectural design of a monastery for a community of hermits. The research project had been looking into the development of the ground plan distribution, the architectural means of creating distance to the surrounding world and the space consumption of Carthusian monasteries. Data was collected in research trips to the sites of all Charterhouses founded between 1115 and 1640 in the order's central distribution area accompanied by a sound literature and archive<sup>2</sup> research. Primary source for setting up the typological sequence was a systematic recording in drawings and standardised texts to compile comparable sets of data on each Charterhouse. The varying state of repair and in some cases long restoration or reconstruction histories of the overcome architecture has been a major challenge. Some of the Charterhouses were found still existent, some derelict and overcome as ruins, some destroyed in medieval times which have not been rebuilt. Since the study aimed at gathering information about the original medieval structures of the monks' habitual quarters, later additions and alterations had to be filtered out and disregarded. Therefore the archaeological excavation data served as highly appreciated corrective.

Regarding the set-up of the study there are some preliminary remarks to be stated before diving into the results. The time frame was determined between 1115 and 1650, i. e. the founding date of the first filiation settlements based on the example of *La Grande Chartreuse*

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<sup>1</sup> Original title of the PhD dissertation: Elke Nagel: Die Klausur der Kartäuser - Typologie und Grundrissorganisation der großen Kreuzgänge im Spannungsverhältnis zwischen Ordensidealen und örtlicher Lage. *Analecta Cartusiana* 297, Salzburg 2013. All stated results in this article are taken from the dissertation. Quotations will only be named if taken from other sources.

<sup>2</sup> Archives and libraries (selection): Bayerische Staatsbibliothek in Munich and Bamberg, Landesbibliothek Baden-Württemberg in Stuttgart, British Library London, Bibliothèque National de France Paris, Libraries of several universities in Germany and France, archives of the French, Swiss and Italian regional departments, archive general of the Carthusian order, etc. Especially the personal archives of private or institutional owners of the former Charterhouses served as remarkably rich source for historic images.

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and the last monastery being built in medieval architectural shape and formal appearance. So, in respect of architecture the Carthusian medieval era was some 100 years prolonged in comparison with the rest of the world. In terms of regional boundary the research region focused on the five elementary monastic provinces around the Central European alpine region. Similarities in topography, regional and political situation, founding dates, etc. present a uniform setting and nourishing bed for the development of a specific Carthusian architecture.



Figure 1: Investigation area of the PhD project on Carthusian habitual architecture, drawing E. Nagel on the basis of the full listing by J. Hogg<sup>3</sup>

<sup>3</sup> Full listing of all Charterhouses ever existing structured in the order's provinces including founding and closing dates: Hogg, James: Die Ausbreitung der Kartäuser von James Hogg, *Analecta Cartusiana* 89, Salzburg 1987.

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There have been several very valuable listings of Charterhouses by James Hogg<sup>4</sup>, Jean-Pierre Aniel<sup>5</sup>, Marijan Zadnikar<sup>6</sup>, *Parkminster Charterhouse*<sup>7</sup> and others<sup>8</sup>. Each list or catalogue was compiled with a specific focus, even including cursory architectural features such as the arrangement of church, great and small cloister for the early houses. Most informative proved the list of Carthusian monasteries dating back to the time around 1650 by Dorlandus<sup>9</sup>. Yet, a typological research on Carthusian architecture regarding the entirety of the medieval era had remained a desideratum. Based on the data collected in the existing listings, a statistic examination of the founding dates revealed some issues about the pace of increase in numbers:

The rapidly increasing number of settlements from the first appearance around 1100 led to the definition of a prime founding period of the order around 1200. Again, a high quantity of foundations just before 1400 highlights another zenith. Followed by a severe decrease due to politically precarious times in C15. Finally, the medieval era closed with a low but steady number of foundations. Altogether, six phases of architectural development could be identified by looking into various criteria, such as date and situation of the foundation, founding persons, topographic situation and layout of the ground plan.

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<sup>4</sup> Cf. Hogg, 1987.

<sup>5</sup> Including review of early Carthusian architectural features: Aniel, Jean-Pierre: *Les Maisons de Chartreux – Des origines a la Chartreuse de Pavie*. Bibliothèque de la Société Française d'Archéologie 16, Genève 1983.

<sup>6</sup> Zadnikar, Marijan: *Die Kartäuser – Der Orden der schweigenden Mönche*, Köln 1983.

<sup>7</sup> Collection of copper engravings: *Maisons de l'Ordre des Chartreux*, Montreuil-sur-Mer / Tournai, Parkminster 1913-1919.

<sup>8</sup> Amongst others: Amargier, Paul; Bertrand, Régis; Girard, Alain; Le Blévec, Daniel: *Chartreuses de Provence*, Aix-en-Provence 1988.

<sup>9</sup> *Chronique ou Histoire Generale de l'ordre sacré des Chartreux*, composé par le Reverend Pere Dom Pierre Dorlande, en son temps Prieur de la Chartreuse de Diest, traduit du Latin par Maistre Adrian Driscart, Tournay 1644.

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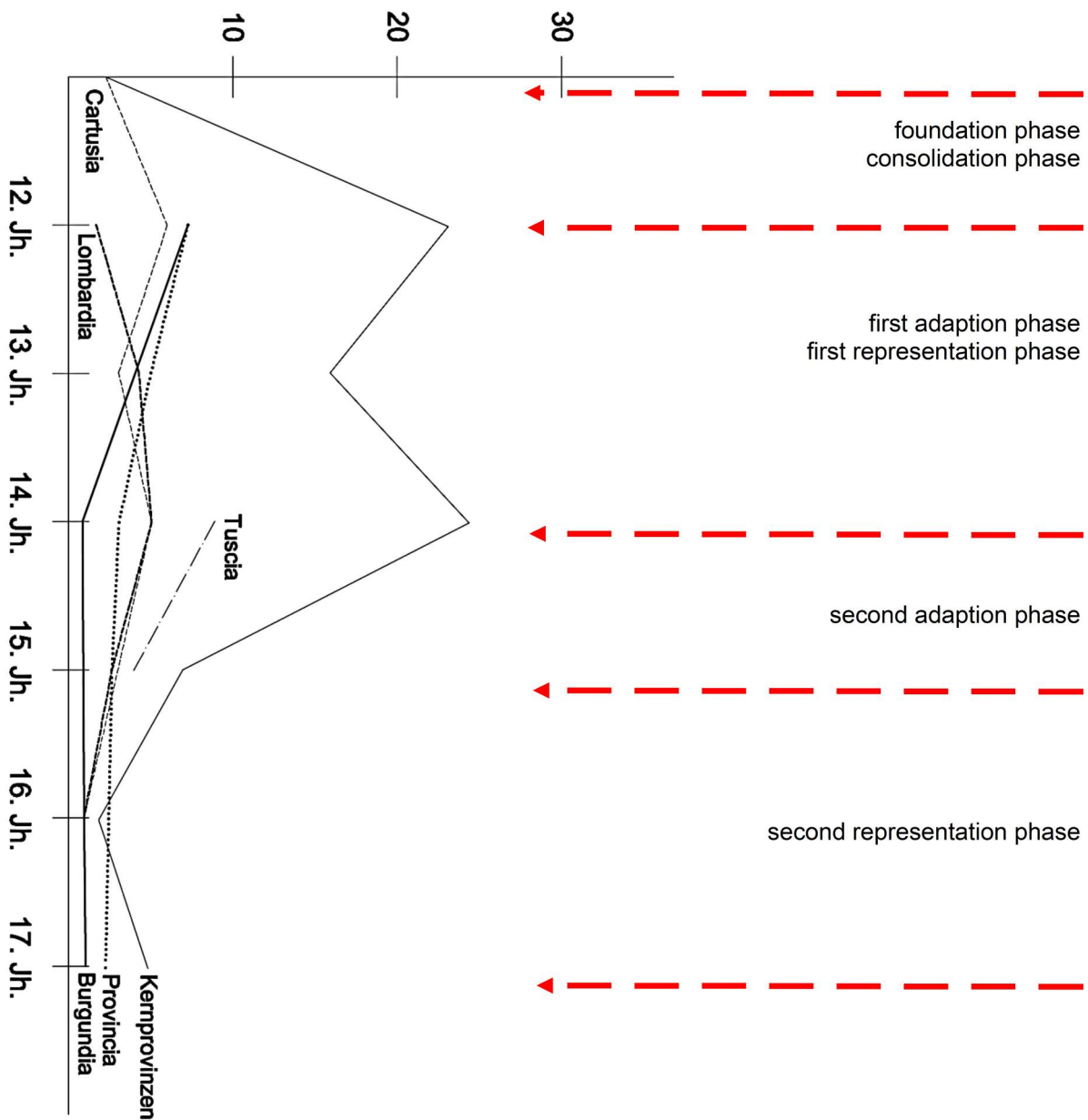


Figure 2: Graphic display of the statistic increase in numbers of founded Charterhouses based on the listed founding dates; on the right edge the graph is overlain with the structure of the architectural development phases

The explanation of the alterations in due course of the typological development shall be preceded by a short introduction into the modular system of a Carthusian monastery with highly adaptable ground plan dispositions free to react to any topography. *La Chartreuse de Valbonne*, a Charterhouse in Southern France built in 1203 – most probably in about half its

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actual size – will serve as example. An aerial view shows the very remote situation within wide spread and densely wooded hills, until today far off the beaten track.



Figure 3: Aerial view of *La Chartreuse de Valbonne*, Southern France, source: historic postcard in the private archive of *La Charteruse de Valbonne*

More than any other order's houses Carthusian monasteries have to satisfy special spatial necessities. Firstly, there has to be a retreat for each hermit in absolute silence enabling contemplation and secondly housing for the whole community of monks is being needed.

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Contradicting scopes seem to be natural to the Carthusian world where eremitism and coenobitism coincide.

### **The modular system**

Starting the virtual tour with the spaces open or partly open to access. A gate house shields from the outer world and often there can be found some sort of economic quarters set between the world and the closure of the monks. The coenobium of a Charterhouse is a small courtyard (minor cloister) around which the church and the communal spaces such as refectory, chapter house, etc. are arranged. As in every order the church is the centre of monastic life, here the whole community of cell monks (patres) and lay brothers (fratres) meets for daily mass. Its situation within the monastery is being minted by direct access with short ways to every member of the community. Sacristy and chapter house are often collocated to both sides of the choir. Inside the Church there always used to be a jube (screen) to separate the cell monks from the lay brothers. There is no habitual use of the minor cloister. It just serves the allotment of the communal rooms. Refectory and chapter house are in use once a week for the community's Sunday lunch and the weekly chapter meeting. In comparison to houses of other orders, such as the Benedictines for example, the rooms may seem small, but then small spaces are well sufficient for a community of maximum 20-25 members. Still, these rooms represent the only sign of coenobitism and communal life and are randomly used only.

Emphasis has to be laid on the major cloister and adjacent cell houses, since a Carthusian enclosure has to provide living space for hermits. In consequence there are two steps of strict enclosure: the major cloister (or habitual cloister) and in the second step the small cell house with its walled garden as utmost form of sole retreat. Seen technically, the cloister is no more than an aisle to approach the cell houses. Due to the habit of aligning all cell houses along the major cloister it had enormous spatial needs. But it is not appointed to serve as space for meditation or contemplation at all but as link between the cell houses only. Consequently design can be reduced to the absolute minimum of a covered aisle – and in the early days of the order often were as such. On the other hand, the major cloister has a spiritual meaning as well. Figuring the linking element of a community of hermits gave the cloister a high transcendent significance, which led to a bloom of architectural decoration in later times.

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The cell houses are the heart of a Charterhouse. To lead a complete and entire life within the boundaries of a hermit's enclosure, the house simply has to provide enough space, light and air to allow for a monk's living within the allotment and secure silence and solitude. Three rooms and a small walled garden are not to be regarded as luxury, but as sine qua non.

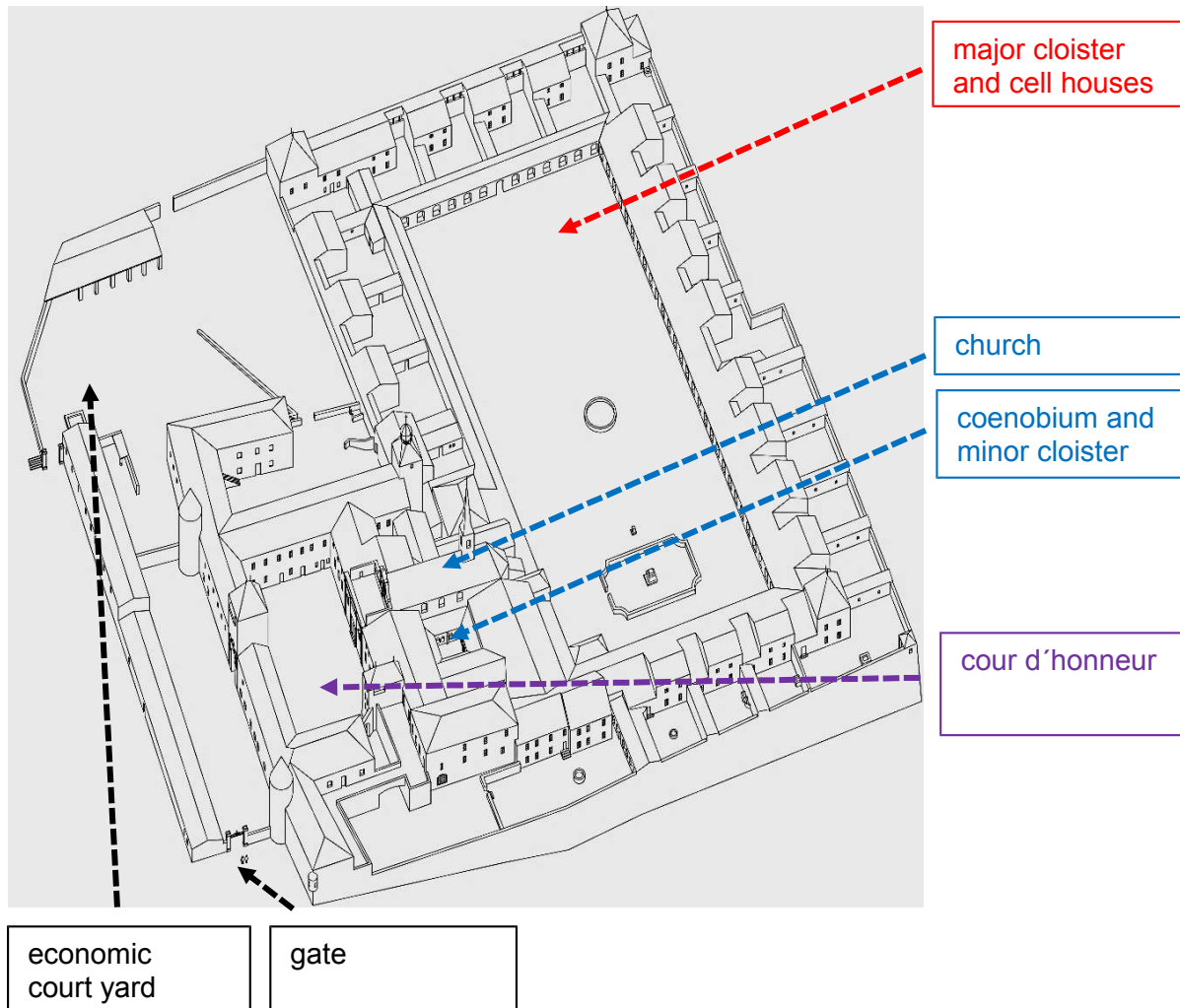


Figure 4: Drawing of *La Chartreuse de Valbonne* with indication of the separate building parts, drawing by Ph. Kuebart

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### Foundation phase (Charterhouses founded between 1084-1115<sup>10</sup>)

Houses of the foundation phase would be typologically of interest as the architectural type had to form on the basis of the young order's conventions, but unfortunately no examples overcame to our days. *La Grande Chartreuse* (the order's mother house) had been rebuilt several times ever since and has even been resettled in a slightly different place after a most destructing landslide. Remarkable are the usually extreme topographical conditions in the higher alpine regions around Grenoble. Main characteristic is a natural close as retreat from the world: Carthusian desert as consciously chosen home to the hermits. Visiting the places it becomes obvious: Settling in most remote and hardly habitable alpine conditions, there cannot be rule the monastery's building layout has to follow apart from the location ruling the individual design. Due to the Carthusian habits and the requirement of creating a silent retreat, there have to be some basic parts building up in various settings of the modular system creating individual distributions of coenobium, church and major cloister. In the early phases the economic base was situated in more arable places close by, but not adjacent to the monastery.

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<sup>10</sup> Dates in brackets after the phase always represent the dates of the first and the last foundation of monasteries showing all elements of the typological phase: They are to be understood as orientation and are definitely not being meant as strict demarcation timewise since the development began earlier and some elements had a longer duration.



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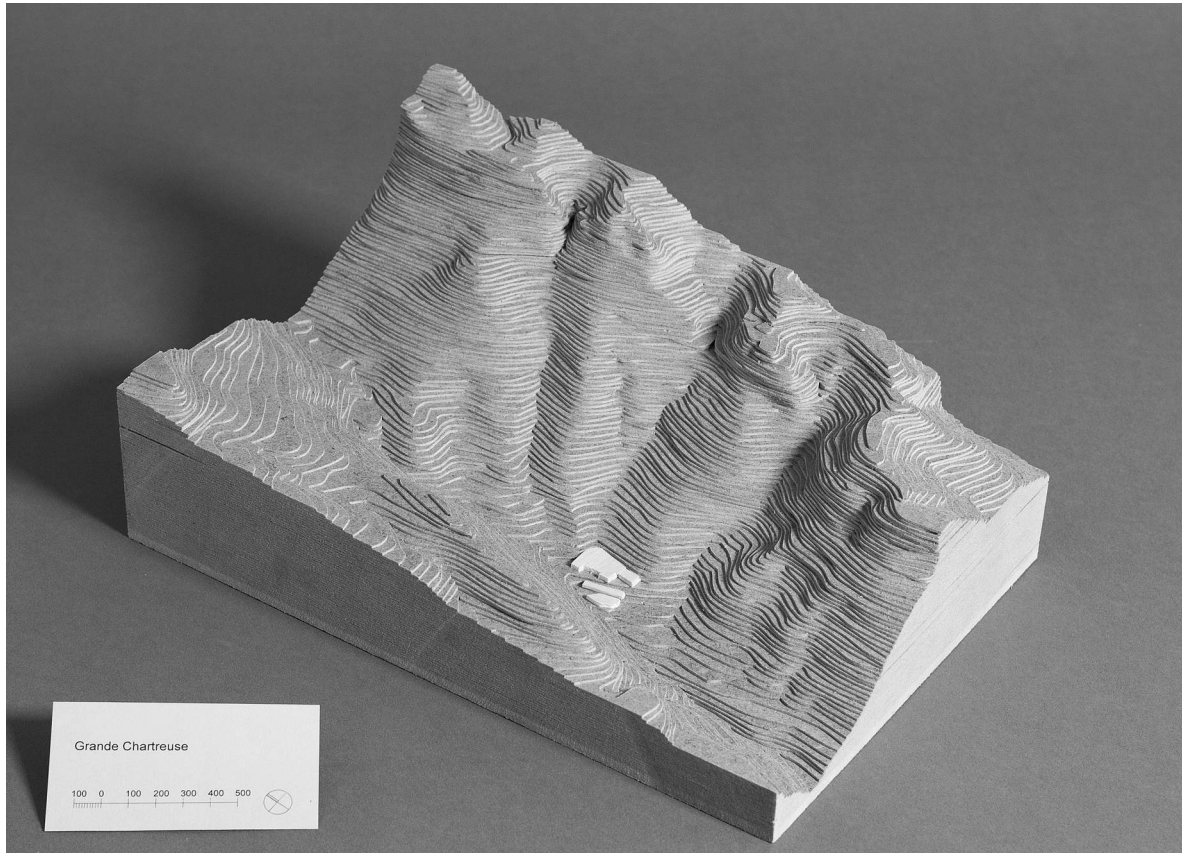


Figure 5: Topographic model (original scale 1: 10.000) showing the setting of the order's mother house *La Grande Chartreuse*, model built by E. Nagel on the basis of topographic maps by IGN

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Figure 6: Photograph of the current setting of the order's mother house *La Grande Chartreuse*, photograph by E. Nagel

### **Consolidation phase (Charterhouses founded between 1115-1203)**

Consolidation phase names the period of the first filiation settlements, i. e. the actual emerge of a proper order out of the Carthusian model community when internal structures formed for the first time. In consequence the first order's rule (*consuetudines Guigonis*) was written down. Astonishingly with no word mentioning any determination for the modular building layout which was so important for the Carthusian habits! The topography resembles the earliest phase as all settlements were situated in high alpine regions with no contact whatsoever to the surrounding world. Remoteness and often highly unsuitable building grounds had to be coped with: rocky offsets, steeply banked valleys with narrow grounds, etc. Natural protection was the reward for the strain of building in those inhospitable places. Unapproachability creating the Carthusian desert, the highly valued enclosure.

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21 monasteries have been founded within the investigation area and serve as numerous sources for comparable data. Put in a nutshell, one could reduce the phase's characteristics to "practicability came first": small in overall size and featuring pragmatic alignments of all necessary modules (coenobium, church and major cloister with cell houses). The result of topography ruling over design were uniformly long, narrow overall layouts with clear outlines. The economic quarters were located some miles off in lower parts of the mountains. Due to the remote places of settlement and the natural protection no spatial add-ons or architectural means of protection were required.

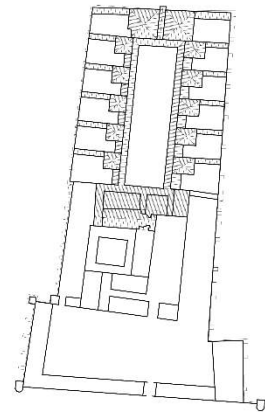


Figure 7: *La Chartreuse de La Verne*, Charterhouse in Southern France, photograph and ground plan drawing (original scale 1:1.000) by E. Nagel

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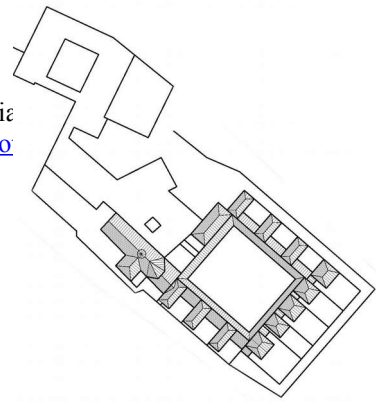


Figure 8: *La Chartreuse de Portes*, Chartreuse in Southern France, photograph by T. Riegler and ground plan drawing (original scale 1:1.000) by E. Nagel

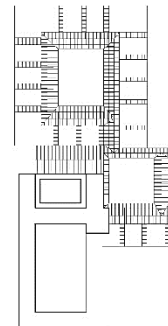
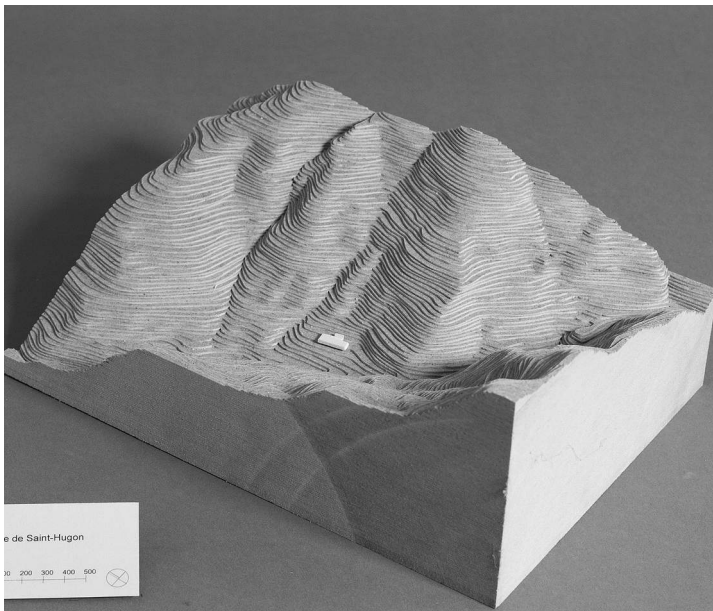


Figure 9: *La Chartreuse de Saint-Hugon*, Charterhouse in Southern France, topographic model (original scale 1:10.000) and ground plan drawing (original scale 1:1.000) by E. Nagel

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### First adaption phase (Charterhouses founded between 1203-1340)

In some cases the challenge of surviving in the inhospitable mountain areas proved too hard and some settlements had to be abandoned after short life spans, e. g. *La Chartreuse de Les Ecouges* with its utmost spectacular alpine location. New foundations were gradually situated in more moderate but still remote alpine regions. 15 Charterhouses could be counted within the investigation area. Direct contact with the world still was strictly avoided, although the situation of the building ground changed from closed valleys to the open flanks of the mountains. The system of pragmatically aligning the modules was given up in favour of more organic layouts aiming at more compact outlines. First architectural means of foreclosure had to be taken: walls and proper gate houses, lay quarters as protection against the world. Due to the generally considerably sloping topography the accumulation of the modules did not work out completely orderly. Subsequently axial intersections occurred as well as the striving for compact outlines forced a reduction of the walled gardens belonging to the cell houses. Since not offering enough air and light anymore, the standardised alignment of the cell houses along the cloister was exchanged against more flexible total plans. Depending on the situation, some cell houses were situated in the rear parts of the gardens, linked to the cloister by aisles. Even between the different flanks the way of joining houses and cloister can vary. To raise the efficiency the economic quarters were now enclosed in the total ground plan which caused much bigger monasteries with erratic increase in space consumption.

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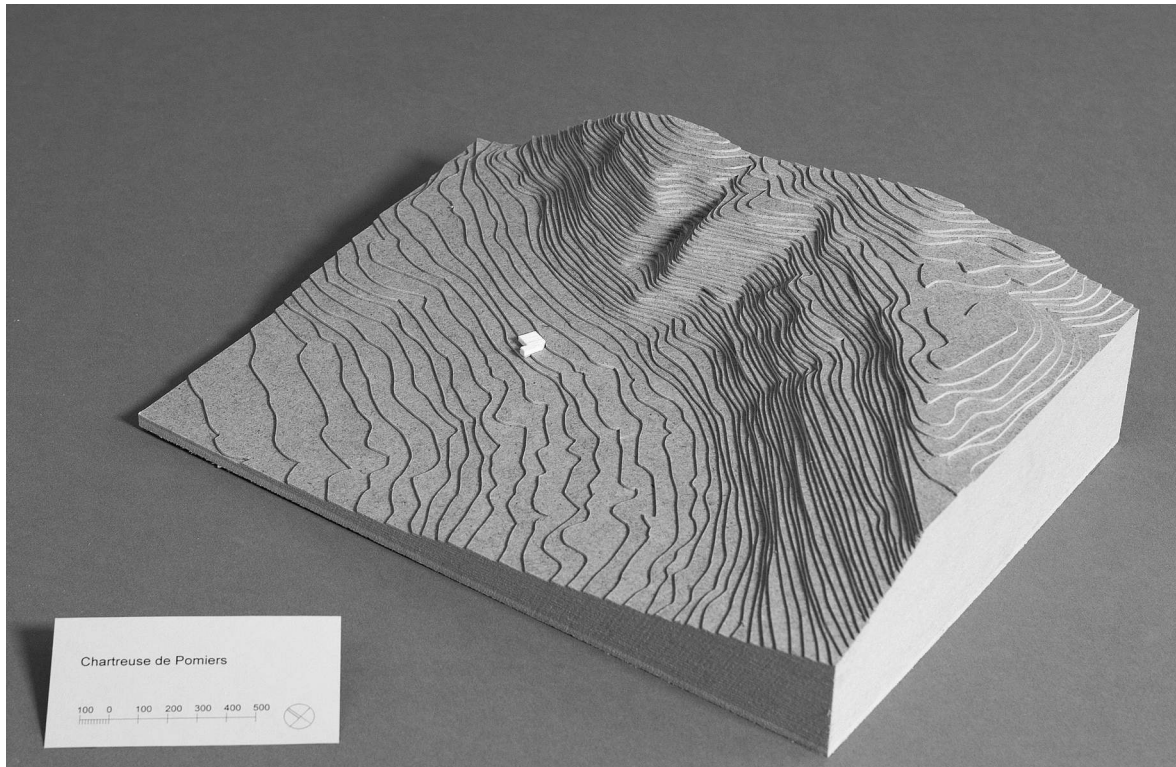


Figure 10: Topographic model (original scale 1: 10.000) showing the setting of *La Chartreuse de Pomiers*, Charterhouse in Southern France, model built by E. Nagel on the basis of topographic maps by IGN

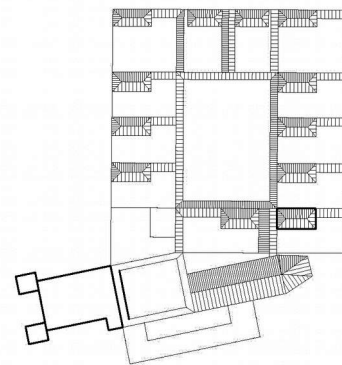


Figure 11: *La Chartreuse de Pomiers*, Charterhouse in Southern France, photograph and ground plan drawing (original scale 1:1.000) by E. Nagel

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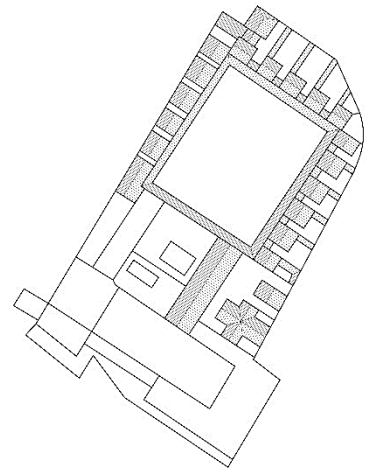


Figure 12: *Certosa di Firenze Galluzzo*, Charterhouse in Tuscany, Italy, photograph and ground plan drawing (original scale 1:1.000) by E. Nagel

### Excursus: Relation between foundation period and topographic situation

Having collected the data regarding the topographical setting of approximately 140 Charterhouses during the field trips, a progressing change became very clear. The locations gradually moved closer to the worldly settlements. So it seemed a logical step to compare the results of the topographic survey to the table of foundation dates. In the matrix table shown below all filled in boxes mark Charterhouses within the investigation area over the centuries. The red arrow represents the decline in the topographic situation in respect of height, alpine remoteness and natural protection of the settlement grounds.

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	10...			11...			12...			13...			14...			15...			16...								
	81-99	00-20	21-40	41-60	61-80	81-99	00-20	21-40	41-60	61-80	81-99	00-20	21-40	41-60	61-80	81-99	00-20	21-40	41-60	61-80	81-99	00-20	21-40				
Lage 1		127-128	Arvikles		La Verna	Loza	Monte benedetto		Balmona			Chalatis	Monte Inesio		Bari	Fleiss-Christl											
Lage 2	Grande Charterhouse Comble	Parles Darbon Mayrat Saint-Basace Elye-Berthe I	Valton	Val-Sainte-Marie Oujon Repeaux	Caselle Boelleu Mostréux Pasio St-Hegon Alfon	Berbaud		Stiglin Valbonne			Quiré Vabalde	Schraib Gernig					Montreux Re-Nove										
Lage 3			Vaucluse		Pontiers Lugry			Prebayan Pevand	Pernéne		Sainte-Croixen-1 Genove	Fort-Oie Albenga Maggano	Farneta	Finera Fagnan Tuckelhausen	Pisa		Appiaach Mauri-Grone				Serona Sengen	Banda		Avigliana			
Lage 4				St-Anné	Sallion		Nord-ville Tolroy	Milan Borogog	Colle Roubaud		Ferra Subette	La-Lance Pompas Maur-Dach	Val de Paiz Genève Bologna Champ-mol Bosoville	Milano Freiburg	Asti Pavia Coveilly	Munna Sulhart									Lyon	Torino	Ripalle Pescor-elle
Lage 5													Kon	Vie- more Nex-A	Erfurt Nürnberg Lindon		Saep										Aix-en-P. Mantelle

Figure 13: Table of relation between foundation dates and topographic setting

### First representation phase (Charterhouses foaded between 1340-1408)

The moderate grounds came along with the founders' wishes to show off with their foundations and a clearly visible increase of power of the Carthusian order within the clerical patterns. For the first time the layout did not only have to cope with topography and means of survival but had to serve the representation of the order. Quite tricky to keep up a calm and strictly closed interior when the world with its thriving life surrounds the Charterhouse! Responding to the founders' wishes there were many examples of additional courtyards like a *cour d'honneur* to allow a very limited access of the founder to the Charterhouse. In concurrence a new blooming phase of the order set up: more than 14 Charterhouses were founded in a very short period within the investigation area, most of them laid out as double monasteries with 24 cell monks. The addition of the founder's wing and a higher demand for economics due to the larger communities resulted in a massive increase in space requirements. On average a Charterhouse now consumed about 18.500m<sup>2</sup> total area. For the first time an intentional design for the complete ground plan is to be observed (in the contrary to the merely pragmatically arranged layouts before): no axial intersection, regularly sized walled gardens and cell houses, uniform situation regarding air and light, extra buildings to screen the major cloister and a larger number of inner courtyards. Still, the built-on share overweighs the open areas. Gate houses got a more fortified character as they had



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to defy the community from unwanted disturbance by visitors. For the first time settlements evolved from donations of estates close to towns, such as *Certosa di Pontignano* about 10 miles off Siena and *Certosa di Milano Caregnano* in about the same distance to the town centre. *La Chartreuse de Villeneuve-lès-Avignon*, finally, was the first Charterhouse having to put up with a village around its walls, which made extra spare areas like gardens, economic quarters and orchards around the heart of the monastery necessary. The increase of the founders' influence and their demand to have a say in the matter of architecture is clearly visible and had been much to the monks' dismay.

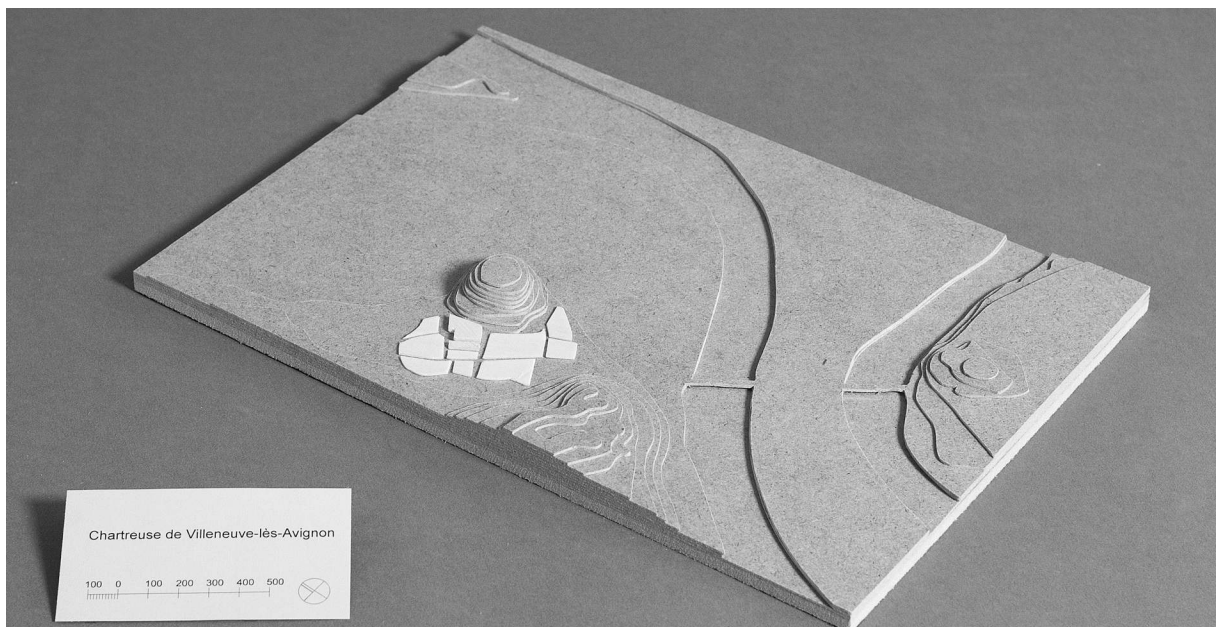


Figure 14: Topographic model (original scale 1: 10.000) showing the setting of *La Chartreuse de Villeneuve-lès-Avignon*, Charterhouse in Southern France, model built by E. Nagel on the basis of topographic maps by IGN

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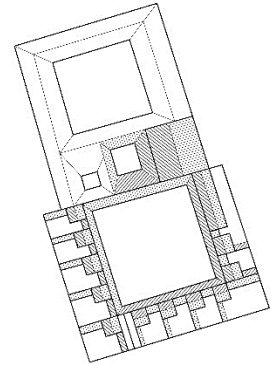


Figure 15: *Certosa di Pontignano*, Charterhouse in Tuscany, Italy, photograph and ground plan drawing (original scale 1:1.000) by E. Nagel

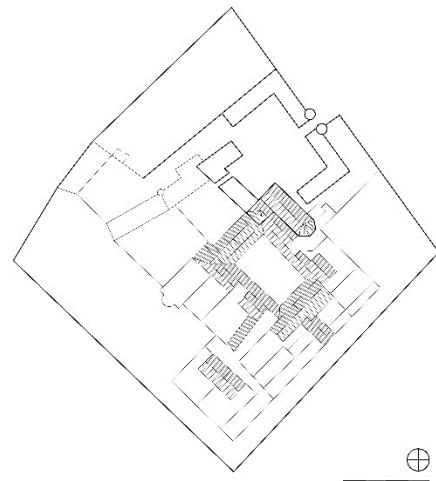


Figure 16: *La Chartreuse de Basseville*, Charterhouse in Central France, photograph and ground plan drawing (original scale 1:1.000) by E. Nagel

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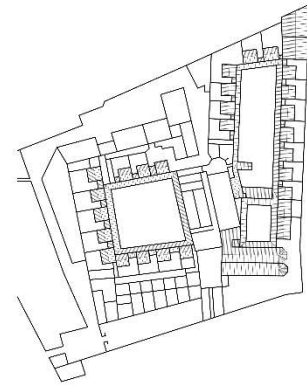


Figure 17: *La Chartreuse de Villeneuve-lès-Avignon*, Charterhouse in Southern France, photograph and ground plan drawing (original scale 1:1.000) by E. Nagel

### Second adaption phase (Charterhouses founded between 1450-1498)

Hardly any new foundations arose in the fifteenth century due to the political instable and very militant times. The existing Charterhouses had to adapt to new political surroundings, but this required internal changes rather than architectural ones. Apart from one thrilling aspect: The churches were brought forward in the externally visible outline. Had the Carthusians indulged in being an extraordinarily closed community and not allowing any insights into their habits so far, they now seem to wish for emphasizing their affiliation to the church. For the first time the scheme of single naved churches was abandoned in favour of more complex variations. Parallel, the external appearance grew remarkably in significance. Demarcation between the world and the internal community of hermits became more difficult as the monasteries' grounds often lay adjacent to more densely settled areas now. The close neighbourhood resulting in castellated walls, massive gate houses flanked by towers and a large portion of private ground around the Charterhouse. The inner scheme changed to a large number of courtyards, considerably sized economic and lay quarters and several upstream yards (*cour d'honneur*). Consequently, the open spaced areas grew larger than the buildings' space. A very complex and wide-spread layout developed, but still the major cloister and the cell houses remained hardly untouched in their disposition and sizes. Changes only hit the surrounding coenobitic parts of the monastery.

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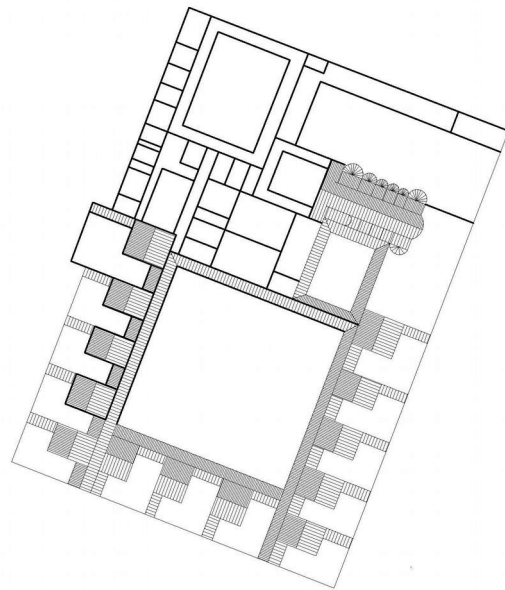


Figure 18: *Certosa di Padova*, Charterhouse in Northern Italy, photographs and ground plan drawing (original scale 1:1.000) by E. Nagel

### Excursus: increasing land consumption

To record the increasing land consumption 46 examples of Charterhouses which were still in a condition to be investigated by spatial calculations were analysed. A massive increase from around 4.000 m<sup>2</sup> in the consolidation phase to almost 20.000 m<sup>2</sup> in the second adaption phase was the astonishing result. So, in a first conclusion could be summarized that massively growing ground plan layouts secured adequate habitual conditions for the cell monks in the centre of the monastery. But, most interestingly, the major cloister and the cell houses changed least of all parts of the monastery.

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### Second representation phase (Charterhouses founded between 1585-1633)

Strictly speaking this period is outside the time frame for the medieval era, but not with the Carthusians! Social, political and economic changes that required amendments in respect to the architecture reached out inside the Charterhouse walls with a delay well over a century. Not before well into the 17<sup>th</sup> century the architectural scheme started to adopt modern ideas, such as the complex baroque ground plan designs or the overboarding decorative elements, churches were released from the surrounding buildings being presented to the public. Alongside the conscious and highly provocative situation inside the towns there came a massive increase in the area consumed by the major cloister and the cell houses. Five hundred years after their first design, the Carthusians changed the habitual quarters for the first time ever! The inner courtyard of the major cloister did no longer disappear in insignificance but, due to the extraordinary size, took on an urbanistic prominence. Walled gardens and cell houses could no longer be hidden away in the heart of the monastic buildings forcing a change in the sizes of the walled gardens and the design of the houses itself.

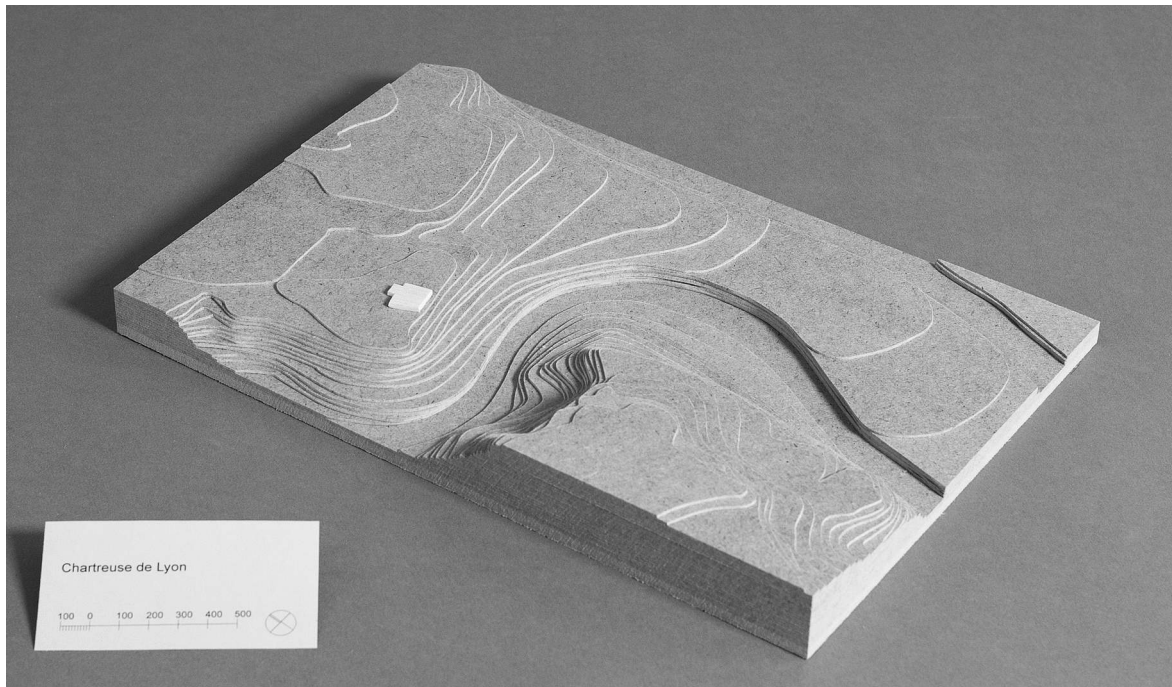


Figure 19: Topographic model (original scale 1: 10.000) showing the setting of *La Chartreuse de Lyon*, Charterhouse in Southern France, model built by E. Nagel on the basis of topographic maps by IGN

### Citation

Elke Nagel: Five Steps Downhill. The typological sequence of Carthusian architectural adaption to new surroundings, 24. December 2015, <http://mittelalter.hypotheses.org/7336>.

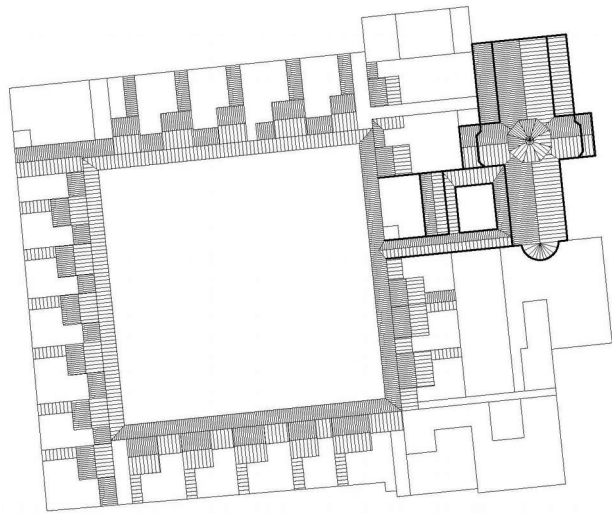


Figure 20: *La Chartreuse de Lyon*, Charterhouse in Southern France, photograph and ground plan drawing (original scale 1:1.000) by E. Nagel

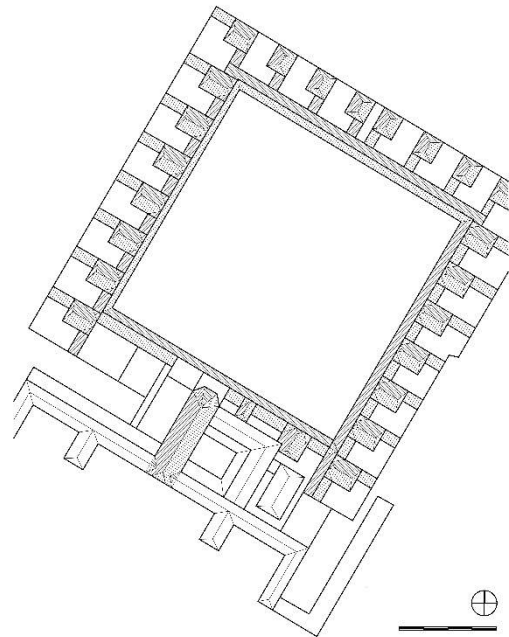


Figure 21: *La Chartreuse de Bosserville*, Charterhouse in Central France, photograph and ground plan drawing (original scale 1:1.000) by E. Nagel

### Citation

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### Summary

The concluding statement has been derived from the historic data found in archives and literature in comparison with the data selected from the overcome buildings or ruins during the field trips. First of all, topography had been the ruling factor for the overall design of Charterhouses in the early centuries. The cell houses only had not been subdued by local conditions but gained their form and design from the order's habits exclusively. Pragmatism used to be the key word for the first two development phases. Nature in terms of unapproachable settings took over when it came to protecting the desert. Commencing with settlements closer to the inhabited world, architectural focusses changed to demarcation from disturbances but hit the outer shell from economic and lay quarters only. No longer was optimised utilisation of the grounds as to light and air for survival but protective impression being aimed at. The heart of the monastery, the major cloister with the cell houses, remained untouched design-wise. Representation only afflicted the buildings of lower hierarchy. The land consumption raised massively by introducing open spaced courtyards within the ground plans. The cell house as one of the first examples of individual living space for a single person with intentional architectural design must be regarded as mile stone in cultural history. After all, it took more than five centuries ere the Carthusians altered the core of their habitual quarters for the first time.