

ARCHITECTURE AND NATURE. ON THE ORIGIN AND CONVERTIBILITY OF ARCHITECTURE

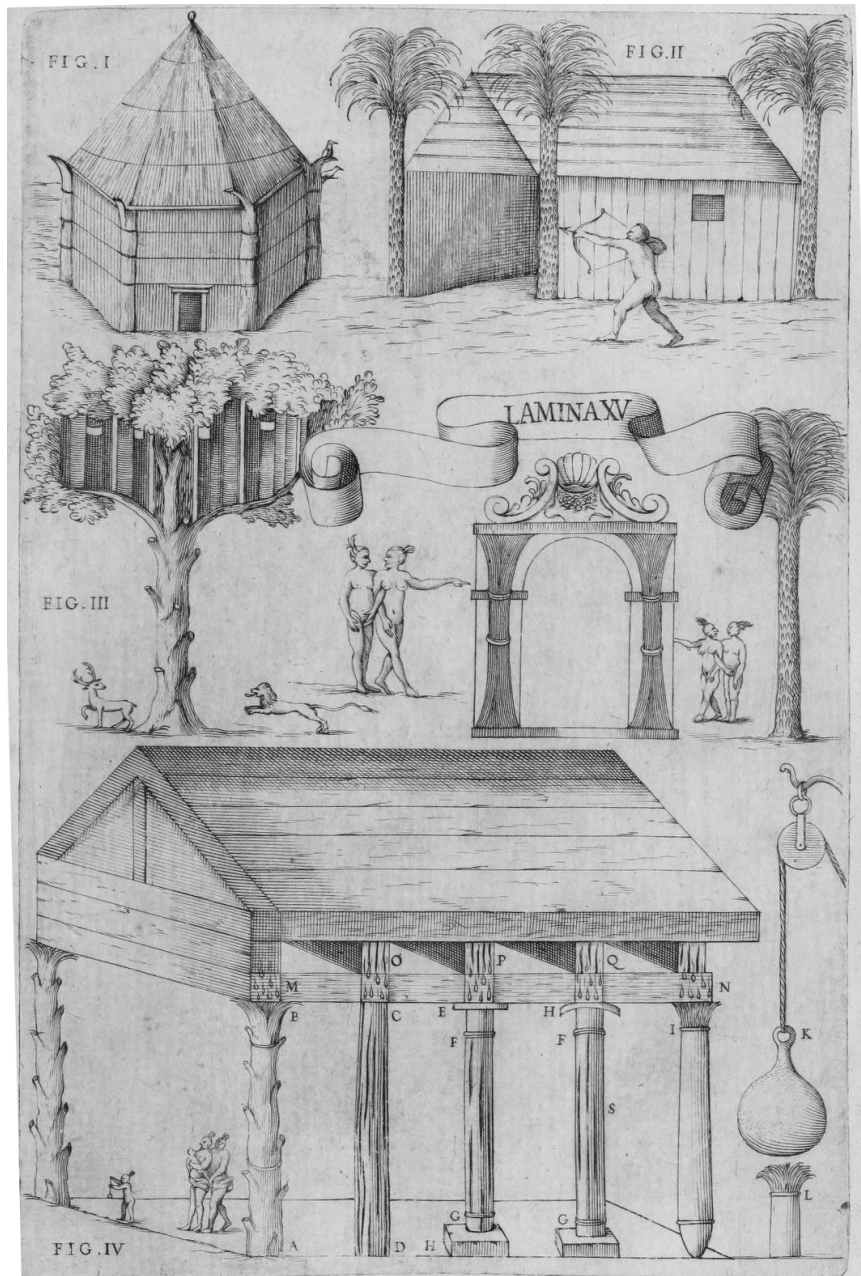
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If there is one term that lends itself better than any other to an almost universal confrontation with the artifact architecture, it is that of nature: nature as creation and hence as a model for any creative process, the work of the divine creator or of the demiurge; nature as omnipresent physical reality and hence the sole reference for any attempt at imitation; nature finally -in more illuministic terms- as preconized system and order, system of the universe, to reproduce in the quest for homo sapiens!†!

The great encyclopaedia of Diderot and d'Alembert, aware of the great influence exercised by the concept of nature on the arts, brought together a majority of discussions and ideas associated with these in its list of the various meanings of the word. Aside from the associated definitions with judicial, moral or mythological connotations, the term is introduced as a philosophical concept, that ranges from the "systeme de l'univers" to the "essence d'une chose", from the "ordre nature"! to the "action de la providence". As for the application of the term to the arts, a distinction is made between "nature" and "la belle nature", by which is intended the sophisticated and composed effect of those who are no longer satisfied with simple nature and replace it with a "choix des plus belles parties de la nature, pour en former un tout exquis". But the variety of its transformations seems already assured in the very definition of the word nature. At first nature is understood in the more narrow sense of "cause active," associated with the "sagesse meme de l'auteur de la nature" and thus to the "plus grande perfection", from which one infers the necessity for the artist to take his inspiration and "stimulation" from nature. But then, starting out from the definition of nature "comme effet", it allows itself almost a show of licentiousness, observing: "Elle (la nature) est le magasin toujours ouvert, d'où l'artiste tire les objets qu'il veut rapporter à ses vues"‡.

This brief *excursus* into the Encyclopaedia spares us an investigation into what is a long history of philosophy which will never be able not to take the concept of nature seriously, but above all it shows us from the beginning that what counts is not so much the universality of nature as such, but its availability; to which same conclusion come the Encyclopaedia as well. When man does not find what he is seeking, his "génie" comes to his aid to invent new things: "... s'il ne rencontre pas tout de suite dans la nature ce qui lui serait nécessaire, des objets imaginaires qui se rapportent à son but". Nature here no longer seems to be an absolute dictator but is on the contrary stripped of its belongings. And as a consequence the Encyclopaedia will say that whoever is best prepared with a knowledge of things will be their better imitator.

It may be supposed that from the moment that nature



entered into the discussion of art, the centre of interest shifted from a simple affirmation or even admiration of the various possibilities for the exploitation of its effects. In the end nature and art compete for their position in the world, each accusing the other of being limited in its possibilities. This "struggle" is followed by the young Daniele Barbaro, later the most, often quoted interpreter of Vitruvius, who while still a student at Padua writes his dialogue of eloquence, published by Ruscelli in Venice in 1557 and dedicated to the "Signori Accademici Costanti di Vicenza". The interlocutors are "Art, Nature and the Soul". It begins as follows:

Art: it would be much to my taste o Nature, to hold a discussion with you, but only if the act of debate is suitable to your state.

Nature: Debate is a thing of yours o Art, my daughter. But if it is my part to instruct you, I would say for now that between your understanding and mine, no difference exists, whatever may be the motive for your wish to debate with me.

Art: I at least desire such an opportunity.

Nature: Vain, and harmful is your desire, both because I am never idle and because you must always embrace the good no less than seek the truth of things.

Art: Nothing avails me more, than the good, nor delights me more than the true.

Nature: In this at least you resemble me, that wherever I find myself, I am the true, and the good of all things.

Art: Yes, but you go blindly away, and I so love each one, that I act with deliberate counsel and end in view, and I know that I do good.

Nature: And yet it is manifest to me, that your greatness is to conceal yourself as much as you can, and to come near to me.

Art: This is so, but it happens because you came into the world before me, and men became accustomed to your pleasures long before I was born there, and this my imitation does not in any way increase your dignity. Since neither is the humble beast the ant more worthy, nor man less honoured because the one imitates the other, in summer providing for the winter. My industry, o Nature, makes greater your poor heritage. ↓

Nature and art, while finding themselves in agreement on the principal facts, do nothing but contend for the upper hand: Nature knows how much Art is dependent on her, and Art shows pride in the freedom she has gained. Art calls Nature "blind" and boasts of increasing her "poor heritage". The dialogue goes on in this manner. And so the interlocutors reach the point of describ-

ing their external appearance. Nature discovers in Art “something of the solemn in her appearance, in her movement and in her dress”, and admits a “certain tenderness of weeping,” from which Art concludes: “this is a sign, that you love, and revere me”. Likewise the latter allows herself to observe that she has something “of the divine” in her eyes. Art appears so sublime with an aquiline nose, a broad chest, wide shoulders, long arms, palms and fingers. While Nature admits: “I am simpler than you, and more open as you see”. And When Art exclaims: “You make me laugh with so many breasts”, Nature replies: “How many then should I have, being mother of all things?”^Λ

Although art seems to have been liberated from its primary circumstances, although it can - as occurs in almost all the literature of art - boast of excelling nature itself, the latter remains the mother of all things, is preexistent (even if only simply in terms of its prior physical presence) and remains undisputed in as much as it is the real background against which the innovations and the artifices are formed. In this affirmation, frequently repeated by Barbaro, we find also the argument by which art and more especially architecture is always returned to in order to discuss their origins and descent from nature, almost as if to make more explicit the differences and the ways in which they are removed from it ^L.

A metalanguage has been set up, that deals with their relationship, personalized as that of mother and daughter by Barbaro, and that describes the depth of their interdependency, subject again to the renewed conceptions of nature itself, whether philosophical or scientific-geological ones. Each vision of nature will bring new elements to legitimize its daughter “art”.

This reciprocity will find its own independent philosophical ground. The view of the interchangeability of nature and architecture has been given a suitable “philosophy of nature”. Just as mathematics can make perfect the sciences, architecture - similar in many respects to mathematics as Barbaro for example tended to stress - seemed able to symbolize like nothing else the systematic value of creation, “le système de la nature”. Right up to modern times the term “Architettonik” has conveyed to philosophers the quality of a well-founded system. In his *De Polymathia Tractatio* (1603), Johannes à Wower runs over the history of philosophy, starting out from the Aristotelian definition of the “principes scientiae” as “architektonikai” in order to deduce the superiority of architecture over all the other arts. ^t From the “philosophia disciplinarum architektonik” he arrives at the “Architektonikè” & princeps Philosophia, artium mater” that embraces all the arts (“omnes artes tanquam satellites”)

The Vitruvian Legend of Callimachus and the Invention of the Corinthian Capital. From Dieussart, *“Theatrum Architecturae Civilis”*, 1979.



with its universal criterion (“universali vinculo”). In the 18th century, inspired by Locke, Johann Heinrich Lambert* developed his “Anlage zur Architectonic, oder Theorie des Ersten und des Einfachen in der philosophischen und mathematischen Erkenntniss” (1771), and ten years later, Immanuel Kant gave the following definition in a chapter of his *Kritik der reinen Vernunft* entitled “Die architektonik der reinen Vernunft” ¶: “Ich verstehe unter einer Architektonik die Kunst der Systeme. Weil die systematische Einheit dasjenige ist, was gemeine Erkenntnis allererst zur Wissenschaft, d.i. aus einem blossen Aggregat derselben ein System macht, so ist Architektonik die Lehre des Scientifischen in unserer Erkenntnis überhaupt, und sie gehört also notwendig zur Methodenlehre”.

This concept has been passed down - through Charles S. Pierce for example - to the present day ¶. Architectonicity (to use a somewhat forced neologism) has become a synonym for system, for something ordered, as was only to be expected from its very nature: “Ordinem dico, sine quo Natura constare non potest” - to use Scaliger’s formula - and again “Ordo divina res in Natura” ¶¶.

It is therefore obvious that we will have something to do with these philosophical concepts, especially in their universal aspect. Architecture - ideally conceived and imagined - will also serve to illustrate these features, and will even serve to suggest by means of numerous models of the convertibility of nature and architecture a foundation “inre”, the real dependence of one on the other and vice versa.

But it is obvious too that what its images project will often return to the concrete vision of historic events, perhaps in order to combine what Giovanni Battista Giraldis separates in his *Discorsi* (1554): “The Poet aims at the nature of the thing, which is wholly on a universal level, but the historian has only to write of the particular event” ¶¶.

An almost ideal combination of the universal and universalistic discourse with a concrete subject as illustration is offered by that sector of art theory that idealizes its own origin in fables and mythical tales. In Barbaro’s dialogue quoted above Arts says to Nature, “you came into the world before me”.

And thus art was left with the job of deriving its own principles from nature. Just as in other fields of culture and human works, so too in architecture “the inventions” were often associated with some element of ancient history, from the biblical or the classical age.

Thus the “invention” of a form as sophisticated and highly developed as the Corinthian column is transformed in the metamorphosis brought about by its very nature. This is the story of

“L’origine des Chapiteaux des colonnes”, engraving by Jean Baptiste Broebes. From F. Blondel, *Cours d’Architecture*, II, 1683.

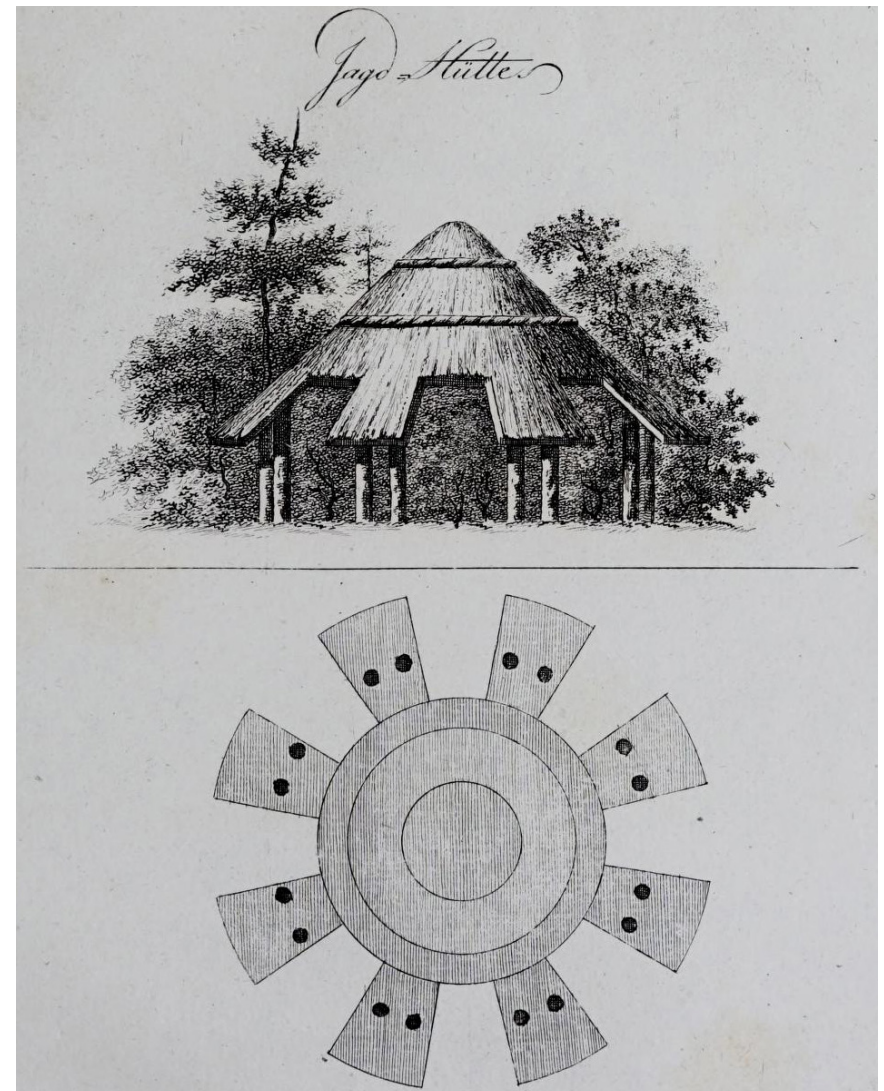


Kallimachos' finding of the basket abandoned on the tomb of a young girl and surrounded by acanthus leaves, as it was repeatedly drawn to illustrate the treatises of architecture, such as the one by Freart de Chambray on the *Parallele de l'Architecture antique et de la moderne* of 1650 or, another example, the one by Dieussart entitled *Theatrum architecturae civilis* and published for the first time in 1679 at Giistrow ¶ 8. Thus Vitruvius' tale provided an occasion for meditation on nature, mistress of architecture - from the pictures mentioned, where the young Kallimachos is portrayed in the act with drawing-board and stylus, up to Gerd Neumann, who felt himself driven in 1980 to redesign in a pessimistic tone the capital with its fluttering acanthus leaves ¶ 11.

For those who preferred not to follow Vitruvius, it was easy to find the opportunity to replace this myth by another, more ideological or rather archaeological one. Villalpando puts palm leaves in place of the acanthus and sees the capitals as having been derived from the Solomonic temple, the work of the Holy Spirit ¶ 1. François Blondel, in the second part of his *Cours d'Architecture* (1683), goes back more generically to funeral monuments in order to explain the origins of the capitals and columns ¶ 1. But the image, in the engraving by the still young Jean-Baptiste Broebes, does not stray at all from the mythical tale of Kallimachos, depicting the basket with its acanthus leaves, adding the usual artist who discovers and reproduces the artifice in nature, and finally setting the whole thing in a true and proper archaic landscape, in an anticipation of Gandy's programmatic image which we shall discuss later on. For now we will stay in the ambit of the convertibility of architecture and nature, but in terms of submerged archaic cultures, from the golden age perhaps: the first civilization, closer to divine revelation, appears in its scanty remains and inspires modern man with its artifacts by now separated from their original and natural function.

The story of the primitive Adamic house has similar consequences. By its natural preamble it justifies the invention of the architectonic artifice. And everywhere a trace can be found of them, the arguments help to drive home the dependence of architecture on natural laws. Caramuel, in his *Architectura recta y obliqua*, makes use of his knowledge of the American peoples drawn from Ramusio to expand on the arguments already to be found in Vitruvius that elucidate the descent of the house and the columns from woods and tree trunks ¶ 1. He goes on to add observations that appear to detail the stages of this process of transformation. Alongside the usual primitive house in fig. I of Plate XV he draws the model of the primitive dwelling, of the natural man who lives in the trees "por temor de la fieras, y de

Primitive huts and exotic architecture: Otaiti's hut.
From J. G. Grohmann, *Ideenmagazin*, 1799.



inundaciones repentinas.” The rest follows the logic of the theory: from the varied use of tree trunks – demonstrated in fig. IV – derive the different orders. And again: palms appear, no longer as an inheritance from the temple of Solomon, but because of the factors of geography and natural history, as corner supports of the primitive hut. The picture of the “Palatium Reguli in S. Dominici Insula ab Hispanis inventi” (Plate XIII) seems to repropose this type of solution on a level of developed architecture as well. Palms – as well as forming a quadrangle in front – flank the building, that in the description given by Caramuel is made up of “many very large, and finely worked timbers... set up as columns”.

That this building or rather palace is (still) linked to the natural manner of the American natives is shown by the doorway with its “columns” of twigs bound together, which go back in fact to the primitive houses of Plate XV mentioned above, that are moreover intended as an illustration “De el origen de la Arquitectura”. This is a genuine example of anthropology applied to the myth of the natural birth of architecture. The palms themselves: had to increase the significance of “the natural”, as they will do again in Gandy’s *Architecture, its Natural Model*; they reflect the fascination already sought in the reconstructions of the Temple of Solomon and proposed again in numerous revivals right up to Hans Hollein’s modern decorations.

The “imagerie” created around the origin of the columns and capitals, and more generally of architecture itself will have its own extreme consequences. The illustration discussed by Caramuel will be reproposed by the Trapanese Giovanni Amico* in his *L’Architetto pratico* of 1726; but more particularly the various formulations of the primitive and “natural” house will be applied in the different kinds of refuge set up in gardens right up to the picturesque “Jagdhütten” proposed by the *Ideenmagazin für Liebhaber von Gärten, Englischen Anlagen und für Besitzer von Landgütern*, published by Grohmann** from 1796 onwards. Here, where 18th-century man in fact rediscovers nature in parks and gardens, the opportunity to give a concrete form to the founding myth is immediately grasped and does not shrink – again in analogy to Caramuel’s evocation of American and Caribbean cultures – from proposing the exotic hut from the island of Otahiti as architecture, which is what Grohmann does.

But on the other hand, far from the simple processes of imitation and the various attempts, often innocuous, at self-deception about the primitive state, the very idea of the prefiguration of architecture in nature intensifies on the level of the concepts themselves. A by now classic example is offered by Ribart de Chamouss in his *L’Ordre François trouvé dans la nature* of 1783,

Architecture based on the natural “type,”
The french Order as conceived by Ribart de Chamouss (1786).





where the author claims to have found – as the first to tackle the specific task of designing the French order – “le principe dans la Nature” ¶ 1. The note “planche II” contrasts natural prototype and modern architectural formulation of a given theme (portico, temple, pyramidal monuments): the usual version of the comparison between tree and column – at first sight! But the accompanying legend defines things precisely on the level of the weight given to the natural prefiguration – no longer seen as a simple precursor, but investigated in its universal dimension. In this way before the “Ordre François développé” is placed the “Type de l’Ordre François”. The implications of such a suggestion go beyond the usual model of architecture derived from nature to the omnipresence of the very concept of the archetype of nature, as an idea drawn by now from historical mythography. By this it is intended that nature is always present as the foundation of architecture, as perpetual entreaty, as pattern.

It is suggested that architecture can be brought back to nature and that in the last analysis they are interconvertible. This paradigm – of illuminist derivation in the case of Ribart de Chamouss – stretches right up to Leon Krier’s laconic formula of 1974 of the “2 Kinds of Roofs”. The latter’s “architecture rationelle” is of more use in this context than the corresponding Italian movement, biased as it is towards the historicism.

However the convertibility of architecture and nature also takes its inspiration from themes that are more modern, less humanistic and less Vitruvian but are inspired by that very 18th-century movement of the rediscovery of nature and more especially of the Alps. Subsequently the exercises of Rustini and Viollet-le-Duc with their presentation of the formation of mountains as a deformation of an originally architectonic structure, and the emphasis they placed on the various stages of development come as little of a surprise, all the more in that no-one contests the various processes of erosion and deformation. But on a more careful examination one once again meets with the vision of a world archetype of a mathematical and architectonic nature – although Rustini’s formula for reducing the “Aiguilles-de-Chamonix” to a sort of city wall with towers perhaps makes use of too concrete a model. For Viollet-le-Duc in his “Mont-Blanc” which describes the disintegration of crystalline rocks on account of the glaciers, the tenor is that of the architectural monuments of nature ¶ 1. The watchword is “crystallization”.

Ever since Josias Simler had published in 1574 the first real monograph on the Alps, the *Vallesiae et Alpium descriptio* crystallography has been a discipline pertinent to the analysis of the phenomenon of the natural architecture of the mountains ¶ 1.

The interest in the various geological layers, in stratigraphy, as it was cultivated by naturalists of the early 18th century such as Scheuchzer, was able to provide further motives – grounded in science – for uncovering the architectonic (though distorted) regularity of the Alps. When illustrating the Biblical story of Genesis, Scheuchzer seems to want to promote the stratigraphic image of the Alps – the fruit of the exploratory trips he made into the Alps from 1702 onwards – to characterize the “historical” period of the postdiluvian age. The relative engravings are entitled *Cataclysmi Reliquiae or Ueberbleibseln der Sündfluth* and they once again make use of the archetypal view of nature bestowed on it by myth and by history. On the other hand it seems that the crystalline structure of the mountains is already represented here, just as it will later be by Gandy, for its own ends. Crystallization becomes itself a synonym for architecture. This will be an obvious matter to the romantics. Visiting the cathedral of Cologne – not yet completed at that time – Friedrich Schlegel observes: “Wenn man etwas näher tritt, (ist der kölnner Dom) eher einer ungeheuern Krystallisation zu vergleichen”, “einem unermesslichen Gebilde der krystallisierten Natur”, as he writes in a preparatory version. Thus the incomplete cathedral is seen as an immense crystallization or as a vast crystallized natural formation.

This too gives rise to new traditions of architectonic “image-ries”. The example of Bruno Taut’s *Alpine Architektur* lends itself to the comparison. He is familiar with the whole spectrum of possible formulations: from the crystal at the summit of the mountain (the “Glaskristall” near Garda) to the transformation and reduction of the mountains into architecture, where he cites the applied terraces as a “Naturform” (natural form) that is even suitable – utopistically or if you like “futuristically” – for landing strips for aeroplanes (we are in 1919). Almost contemporaneously for Hugh Ferriss and his *The Metropolis of Tomorrow* the Babylonian and Biblical connotations of his crystallization of terraced skyscrapers seem still within reach, and preferable.

At this point the convertibility of architecture and nature again becomes a suitable means of contrast, aiming to emphasize one or the other; nature’s impetuous miracle of the elements and that of the extreme effects of artifice in architecture. Schinkel visualizes his impression of Milan Cathedral by setting it on a rock in the vicinity of Trieste (“Der Mailander Dom, gedacht auf einem Felsen frei oberhalb Triest liegend”). This isolation from the urban context that aims to emphasize the excellent quality of a single selected monument by Juvarra and by Fischer von Erlach. Both pictured their works – there are other similarities and analogies between the Church of Superga and the

Crystallization, Architecture and nature,
Architecture, its natural model by J. M. Gandy, 1838.



Karlskirche of Vienna – in a raised position and moreover surrounded by water. Such a practice does not seem all that different from that – again with distinctly archetypal references – proposed by the authors of the Superstudio group in *Le dodici Citta ideali* in 1971. Here the image reaches an extreme of what can be represented, taking its inspiration from the debate over the architectonic quality of nature. The transformation of Manhattan into a megalomaniac structure of ice, entitled “New New York” (1969) is nothing but the application of the principle to the highly expressive skyline of that most Babylonian of cities, the heart of Manhattan. The by now overworked effect of modern imagery – as in similar cases – extends into the publicity sector which unites in collage the miracle of the architecture of Manhattan with that miracle of nature that is the Niagara Falls! !

The significance that Manhattan has for architecture, the Matterhorn may have for architectonic forms joined to nature. It is perhaps the inherent and unusual archetypal force of this mountain that makes it a symbol of Alpinist nostalgia. Descriptions such as that of “triangular obelisk of living rock” are common! !. For Bruno Taut the Alpine model for once no longer requires architectonic transformations, but can stand as it is, already expressed in architecture by nature itself! “Der Fels Matterhorn” is the succinct comment to the relative plate of *Alpine Architektur*. Little or nothing is changed if the architects of Haus-Rucker-Co! ! complain that the image of the Matterhorn (in thousands of picture postcards – like the skyscrapers, we might add!) is an exclusively second-hand one and has replaced the immediate effect of the mountain. To remedy the situation and to give a concrete form to the nostalgia for nature the artists reproduce – in an exhibition in the Braunschweiger Kunstverein in 1974 – the Matterhorn on a very large scale and invite the spectator to approach it along a ramp of stone in order to admire the miracle of nature. This “new nature” aims to reconstruct the relationship between man and nature, to make sure one more time of the inspiration that can be drawn from it: just as that described of the Alps for Taut, or that of Monserrat for Gaudì and so on.

But let us go back to nature in its role as an autonomous producer of architecture. We have already referred on several occasions to the watercolour by J.M. Gandy, exhibited in 1838 at the Royal Academy in London and entitled *Architecture, its Natural Model*! !. The painting was intended as a part of an entire programme devoted to the origin and development of architecture. But this time the author is far from any desire to make a philological comment on some Vitruvian myths. All the elements are symbolized and idealized and lead to a genuine allegory of nature as

architecture. Certainly we find here the symbol of Noah’s Ark on top of a distant mountain, which Gandy describes elsewhere, in a writing *On the Philosophy of Architecture*, as the beginning of architecture, characterized as a period of “scientific carpentry”! !. But the concrete historical reference is hidden in the imposing scenery like the tiny religious scenes in the abundant representations of kitchens and still lifes of Beuckelaer’s paintings! What stands out overall is the general character of the landscape of the flood. And even this is estranged from its original historical and Biblical context by the accumulation of other motifs and references. We find the palm, which as far back as Caramuel recalled the exotic world of unspoiled nature, and that has always furnished models for architectural decoration. We see “Fingal’s Cave” as a prefiguration of Gothic architecture, pyramidal formations provided by nature itself, but also the shapes of the perfect domed roof. In the foreground we find not Noah’s sons, but a family of “hominids,” precursors of homo sapiens. We can associate these – through the image of the ape – with the allegory of the imitation of nature, also expressed in the title of Gandy’s painting. But on the other hand the scene seems to be not just that of the flood, but still pre-cultural. Nature is presented at a moment that clearly predates any human artificial intervention. And yet the architecture is there! It is outlined in the mountainous structures and again in the abundance of crystalline formations that are reproduced here with the accuracy of a skilled geologist and even with the addition of analytical details (individual pieces that demonstrate the shearing of vertical structures!).

After Scheuchzer’s harking back to Biblical scenes in his stratigraphical analyses, the reference to 18th-century geological studies dominates here too. “Crystalline”, volcanic or basaltic structures have always attracted attention as miracles of nature wherever they appeared, whether at the foot of Etna, between Randazzo and Taormina, near the river Alcantara, or on Staffa in the British Isles, where Sir Joseph Banks discovers “Fingal’s cave” in 1772. A particularly impressive group of columnar structures of basalt was known in the so-called Giant’s Causeway,! ! which was later to provide the pretext for a struggle between different geological schools, between the Vulcanists and the Neptunists. This interest in the origin of “architectonic” structures found in nature, that preoccupied geologists throughout the 18th century, is further documented in a series of engravings stretching from those published in 1696 by Ewin Sandys to those of Franvois Vivares by Susanna Drury. This is a further demonstration of how any new element – geological discoveries for example – can serve as an illustration of the programmatic relationship

between architecture and nature. It is easy to associate the basaltic structures studied in the Giant's Causeway and depicted by Gandy with the image of Hugh Ferriss's crystalline skyscrapers: it reminds one in fact of what induced Summerson¹¹ to speak of "semi-Biblical anthropology" in Gandy's case, linked up with architecture and with archaeology.

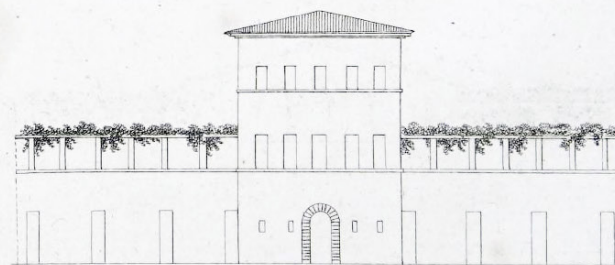
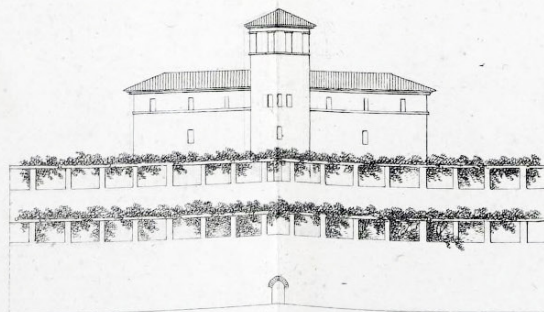
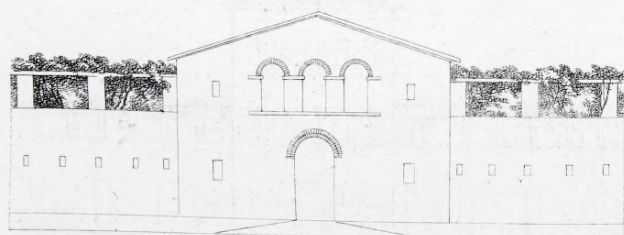
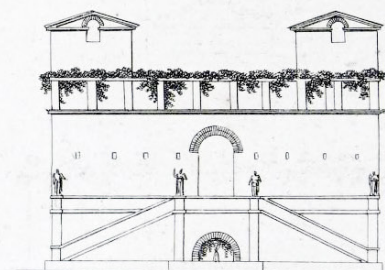
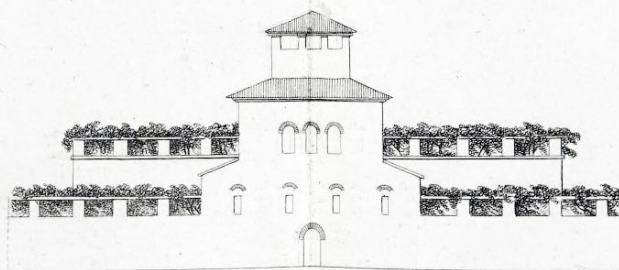
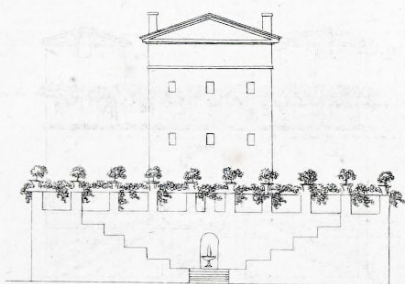
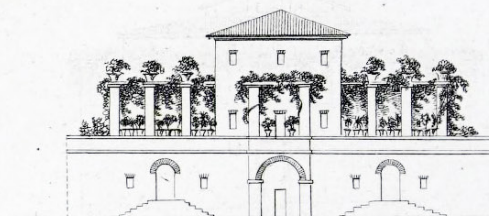
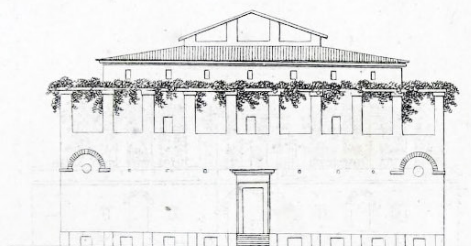
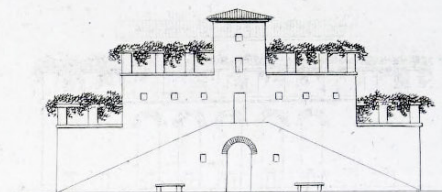
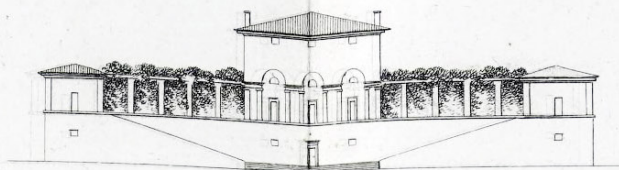
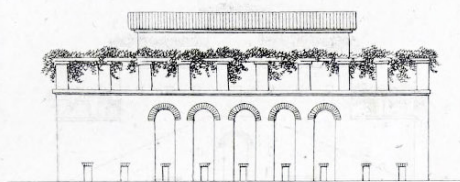
The opportunities to expand on the subject of architecture generated by nature are numerous. Kircher in his *Mundus subterraneus* and the great Encyclopaedia in its section on "Minéralogie" share the fascination with architectural images formed out of stone, an "urbs turrita" or a scene of ruins¹². "Natural bridges" were the object of admiration wherever they appeared. This motif is found again in Gandy and offers Zaccaria Betti¹³ the pretext for a long text dedicated to the Academicians of Bologna: *the Description of a marvellous natural Bridge in the Veronese Mountains* (1776) aims in fact to propose once more the theme of nature as a model for architecture, bears the motto "Duce Natura" on its frontispiece and ends – after various comparisons with examples taken from as far away as the Cordillera of the Andes – with the verdict: "designed with noble proportions by Nature, herself a highly skilled Architect". This explains the curiosity about nature that extends even to the mountainousness of the moon, a subject already debated in a controversy between Cristofaro Grienberger and Galileo Galilei¹⁴!

So the subject extends from the Vitruvian tale to the Eighteenth-century mythologies, from philosophical concepts to the manifold references of the naturalists. In any case the relationship between architecture and nature, when it is compared with the concrete practice of construction and seen stripped of its archetypal and universal halo, borders on the ridiculous and runs the risk of losing itself in a jungle of quotations. It seems inevitable that the road from the philosophic "architektoniké" of nature to the possible connotations of nature in actual works of architecture should be one of regression – and this is perhaps especially true where the hidden symbol that remains a valid testimony to the original idea is replaced by the explicit "natural" reference. Forming an epilogue to our investigation, suspended in the realm of universal concepts, is the road that leads from the cabin of the English garden of geraniums to the windows of the houses of central European villages. From the "Merlin's Cave" of William Kent at Richmond¹⁵, which still creates a setting full of "natural" sensations and provided with numerous concrete references (in the columns, in the vaults), to the pragmatic decorative use of elements from nature on the part of Durand, we notice the loss of concepts of nature as it is reflected in architecture. Durand

leaves us perplexed with his "green" buildings, summed up under the eloquent title: "Emploi des objets de la nature dans la composition des édifices"¹⁶. What seems more prolific instead is the method of imposing the faking of nature itself: in the artificial mountains of the "glacieres" in the parks, in the irritating use of a "natural" tree in the cabins proposed by Krafft and by Grohmann, and even in the resuscitated "architecture parlante" of the Forest Showroom carried out by the Site group in 1980. It seems inevitable that to link up again the features of architecture and nature what is still needed – in a world that is officially deprived of symbols – is reference to nature itself.

EMPLOI DES OBJETS DE LA NATURE DANS LA COMPOSITION DES EDIFICES.

Vignes



✠ For a more extensive treatment of the matters dealt with below I refer you to my *Architettura mai costruita* (in preparation) and in particular to the chapters on nature on creation and on crystallization.

Ω I refer here and in the following to the famous *Encyclopedie au Dictionnaire raisonné des de Sciences, des Arts et des Metiers, par une société de Gens de Lettres*, Paris, 1751 et seq. of Diderot and d'Alembert, and to the various items that refer to the concept of nature (IV, 746; Supplement JV, 319; XI, 41); the criteria cited are those which also appear extracted in *Table analytique et raisonnée* (II), Paris, 1780, pp. 278-279.

⌋ Cf. (Daniele Barbaro) Della Eloquenza, Dialogo del Reverendiss. Monsignor Daniel Barbaro, eletto Patriarca d'Aquileia. Newly brought to light by Girolamo Ruscelli, Venice, 1557, I et seq.

Λ *Ibid.*, p. 34.

⌋ We will not enter into the very wide-ranging discussion of the notion of nature in art and in aesthetics; for for a brief and useful introduction to the problem see: Arthur o. Lovejoy, *Essays in the History of Ideas*, Baltimore, 1948, pp. 69 et seq.

⌋ Cf. Joannes à Wower, *De Polymathia tractatio*, 1603 (reprint *ibid.* 1604); see specially chapters XXV and XXVI on pp. 214 et seq. and pp. 229 et seq., whose titles we have quoted or paraphrased in apart.

✠ Cf. J.H. Lambert, *Angale zur Architetonic, oder Theorie des Ersten und Einfachen in der philosophischen und mathematischen Erkenntniß*, Riga, 1771. (The work dates back to the years 1764/65 of the philosopher's stay in Berlin and therefore to the period immediately after the publication of the famous *Neues Organon*, Leipzig, 1764).

⌋ Cf. I. Kant, *Kritik der reinen Vernunft*, ed. R. Schmid/Meiner, Hamburg, (1956) 1962, p. 748. The chapter forms the "Dritters Hauptstück" of the "Transzendente Methodenlehre".

⌋ See for example, Karl-Otto Apel, *Der Denkweg von Charles S. Pierce*, Frankfurt, (1967) 1975, passim and especially pp. 159 et seq.

✠⌋ The definition (with reference to aristotle's Physics) is taken from I.C. Scaliger, *Exotericarum Exercitationum Liber quintus decimus, de Subtilitate, ad Hieronymum Cardanum*, Paris, 1557, fol. 3 verso.

✠✠ Cf. *Discorsi di M. Giovanbattista Giralaldi Cinthio...*, Venice, 1554, p.226.

✠Ω The story and the relative illustration are to be found inserted in the treatises cited as an introduction to the Corinthian order and refer to the first chapter of the fourth book of Vitruvius. For the variant version by Blondel, cf. below.

✠⌋ This drawing was exhibited at the 1980 Venice Biennial and is reproduced in this issue of Lotus.

✠Λ Villalpando's "Biblical" version was directly quoted in the comment on the illustration of the story of Callimachus according to *Vitruvius in the classic Parallele de l'Architecture antique et de la moderne* by Freart de Chambray (Paris, 1650, p. 51). The author introduces the model (pp.59-60) after the discussion of three ancient Roman examples, and confirms the "Corinthian" character of the Solomonic capital.

✠⌋ F. Blondel, *Cours d'Architecture Seconde et troisième parties*, Paris, 1683, pp. 2 et seq. (Broebes' picture was reproduced and popularized in Blaeu's *Nouveau Théâtre d'Italie*, Amsterdam, IV, 1704, 3).

✠⌋ Cf. J. Caramuel de Lobkowitz, *Architectura Civil recta y obliqua*, Vigevano, 1678. The plates under discussion are to be found added onto the part "Architectura recta": cf. "Parte III" of the plates and - for the relevant comments - pp. 87, 89 of "Articulo III" of "Tratado IX" of "Tomo III."

✠✠ Cf. G. Amico, *L'Architetto Pratico, in cui con facilità si danno le regole per apprendere l'Architettura Civile*, Palermo, 1726: pp. 93 et seq. and figs. 5 and 6 of the Third Part.

✠⌋ We refer here to the classic work of repertoire for the architect of gardens, published in installments from 1796 on by Johann Gottfried Grohmann in Leipzig with notes in French and German: *Ideenmagazin für Liebhaber von Gärten, Englischen Anlagen und für Besitzer von Landgütern ...* / "Recueil d'idées nouvelles pour la Décoration des Jardins et des Parcs dans le goût Anglois, Gothique, Chinois etc." - The "Otahitische Hütte" / "Hutte de l'Ile d'Otaïti" is depicted in plate IX of Cahier XXV. (This was preceded in Cahier XVII, 2 by a "Sommerhaus" / "Bachor" of the same origin!).

✠⌋ Cf. Ribart de Chamouist, *L'Ordre François trouvé dans la Nature, présenté au Roi, le 21 septembre 1776*, Paris, 1786. The statement appears in the preface entitled "A la Nation"!

Ω⌋ It is not very surprising that "the specialists" passed a somewhat ambiguous judgement on Viollet-le-Duc's "Le Massif du Mont Blanc" which appeared in 1876: the 1880 bulletin of the "Club Alpin français" contained the following passage: "Ses travaux d'architecture sont prodigieux de justesse, de science, d'infailibilité en quelque sort... tandis que les admirables et naïves esquisses ou aquarelles du Mont Blanc portent en outre le cachet d'une sincérité d'émotion à laquelle on ne peut rester indifférent."

Ω✠ Josias Simler, *Vallesiae et Alpium descriptio*, Zurich, 1574. The book remained the standard work up until the 18th century.

ΩΩ Scheuchzer's Alpine geological researches were summarized and published in *Helvetiae Stoicheiographia et Oreographia. oder Beschreibung der Elementen/ Grenzen und Bergen des Schweizer/ands ...*,

(Zurich, 1716), preceded among others by Ouresiphioites Helveticus, sive itinera a/pina tria ..., (London, 1708). - The illustration of the famous *Kupferbibel in welcher die Physica sacra oder geheiligte Naturwissenschaft derer in heil. Schrift vorkommenden natürlichen Sachen deutlich erklärt und bewährt* (Augsburg/Ulm, 1731/35), that we reproduce can very well be seen as a direct testimony to the scientific interests of the editor / author.

Ω⌋ Cf. Friedrich Schlegel, *Ansichten und Ideen van der christlichen Kunst*, hrsgb. van Hans Eichner, Munich, 1959, p. 179.

ΩΛ Cf. Bruno Taut, *Alpine Architektur*, Hagen, 1919. - It is well known that he took his first cues from Paul Scheerbart's Glasarchitektur, published in Berlin in 1914 and dedicated to Taut.

Ω⌋ Cf. Hugh Ferriss, *The Metropolis of Tomorrow*, New York, 1929.

Ω⌋ We report the title as it is documented in: Alfred Freiherr von Wolzogen, *Aus Schinkel's Nachlass, IV, Katalog des künstlerischen Nachlasses*, Berlin, 1864, p. 538.

Ω✠ I have suggested a comparison between Juvarrá's sketch of the Superga "immersed in the sea" with a similar representation of the Karlskirche by Fischer von Erlach in W. Oechslin, *Bildungsgut und Antikenrezeption des frühen Settecento in Rom*, Zurich, I 792, pp. 21-22 and p. 45, note 50.

Ω⌋ This is just one of the many possible examples attesting to the presence of such metaphors in advertising! Besides New York has always lent itself to such fantasies - to start with, the cosmological and meteorological connotations of certain spaces in the architecture of the skyscrapers: from the "Rainbow-room" of the RCA building to the "Cloud-club" of the Chrysler Building.

Ω⌋ This is a literal translation of a title that appeared in a Swiss newspaper commenting at the height of the tourist season on the peculiarity of this "Alpine monument."

⌋⌋ Cf. the catalogue of the exhibition *Haus-Rucker-Co. - Zeichnungen 1967-74*, Bonn, 1974-1975, pp. 12 et seq.

⌋✠ The watercolour is in Sir John Soane's Museum in London.

⌋Ω Cf. J.M. Gandy, "On the Philosophy of Architecture," in *Magazine of Fine Arts*, I, 1821, pp. 289 et seq. and pp. 370 et seq.

⌋⌋ An extensive documentation of the discovery and of the graphic representation of the Giant's Causeway has been offered recently by: M. Anglesea/ J. Preston, "A Philosophical Landscape, Susanna Drury and the Giant's Causeway," in *Art History*, vol. 3, 1980, pp. 252 et seq. However the authors make no approach to or mention of Gandy's picture although it seems to

be the apotheosis of the geological and cultural interest described!

⌋Λ Cf. J. Summerson, *Heavenly Mansions*, New York, 1963, pp. 132-133.

⌋⌋ The great interest in such "puzzles" is well-known. For Kircher see: "A. Kircher, Mundi Subterranei Tomus II.us," in V. *Libros digestus*, Amsterdam, 1678, p. 32 and fig. a, p. 33, that refers to a monument "in my Museum."

⌋⌋ Cf. Z. Betti, *Descrizione di un meraviglioso Ponte Naturale nei Monti Veronesi*, Verona, 1766, passim and p. 21. Corresponding to the wonderfully functioning "natural bridge" in the sector of "fabriques" is the "broken bridge," as it appears for example in the above-mentioned work by Grohmann (cahier 6, plate I): without making any reference to the similar Roman monument (!), Grohmann claims on this occasion to be contributing to the debate over art and nature.

⌋✠ Cf. "Lettera del Sig. Galileo Galilei al Padre Cristofaro Grienberger... In materia delle Montuosità della Luna," in *Opere del Galileo, II*, Bologna (Dozza), 1655. (Cf. ivi too the "De Lunarum Montium Altitudine Problema Mathematicum Ter habitum Mantuae ...").

⌋⌋ Cf. *Some designs of Mr. Inigo Jones and Mr. Wm. Kent*, published by John Vardy, London, 1744, p. 32.

⌋⌋ Cf. J. N. L. Durand, *Précis des Leçons d'Architecture données à l'Ecole polytechnique*, Paris, 2.ème partie, planche 18.