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Memory as Construction in Viollet-le-Duc's Architectural Imagination

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Memory as Construction in Viollet-le-Duc’s Architectural Imagination
Aron S. Vinegar

The nineteenth-century architect and theorist Eugène Viollet-le-Duc made a lasting impact on France’s memory of its architectural past—and its imagination of an architecture of the future—through his restorations of numerous Gothic structures for France’s state-run Monuments Historiques. Not surprisingly, he had a sophisticated conceptual, methodological, and practical understanding of the role of memory and imagination in historical investigation. This understanding is never explicitly discussed in scholarly commentary on Viollet-le-Duc, yet it is fundamental for his entire theory and practice of architectural restoration.

In his Entretiens sur l’Architecture, a series of lectures published in two volumes beginning in 1863, Viollet-le-Duc offers a meta-methodological explanation of the roles memory and imagination play in epistemological inquiry.¹ Viollet-le-Duc was directly inspired by D’Alembert’s “Preliminary Discourse” to the first volume of the Encyclopédie and Voltaire’s discussion of Passive and Active Imagination in his Philosophical Dictionary.² Included in D’Alembert’s “Preliminary Discourse” was a genealogical tree of knowledge—the famous Système figuré des connaissances humaines. The Système figuré was divided into three faculties which gave rise to three major divisions of knowledge: Memory, which produced history; Reason, which resulted in philosophy and science; and Imagination, which created poetry and the fine arts. These faculties differed from each other according to how they processed sensations: memory received them, reason reflected upon them, and imagination combined them. In the “Preliminary Discourse,” D’Alembert provides a detailed commentary on each of the three faculties, their interaction, and order of operation within the mind, a formula which Viollet-le-Duc followed closely.³

Viollet-le-Duc insists throughout the Entretiens that in architecture there is no invention ex-nihilo, “we must necessarily have recourse to the past in order to originate in the present”(Lecture VI, 173). Memory, the first faculty to be exercised, involved recalling sensations or ideas passively received by the mind. Viollet-le-Duc—like Voltaire and D’Alembert—uses the term “passive imagination” for this process rather than the word “memory” and believed that although passive imagination alone could not create, it was the fundamental basis of creative imagination. Active imagination is the next faculty to come into play. According to Viollet-le-Duc it was “nothing
more than the application of reasoning to the passive imagination" (174). Active imagination compares, chooses, and orders what the passive imagination—memory—presents in a confused mass. As Viollet-le-Duc noted, "In order to originate, judgment must arrange the elements gathered by the passive imagination" (174). Thus, active imagination was the analytic step leading to synthesis or creative imagination.

Viollet-le-Duc sums up the interaction of the passive and active imagination in his example of the centaur in the first and sixth Entretiens: "the passive imagination of a Greek presents the idea of a man on a horse; his active imagination suggests the combination of the two in a single being; reason shows him how to weld the torso of the one to the breast of the other: he creates a centaur, and this creation has style for us as well as the Greeks" (177). Viollet-le-Duc's use of the centaur, the most extreme example of a fantastic entity generated from imagination and lacking an objective correlate in the real world, continued a long line of philosophico-epistemological commentary on such chimeras extending back to John Locke. Viollet-le-Duc understood the figure of the centaur as the perfect model of an impossible being, which, if given the coherence and organization of a real biological entity, was classifiable "as if" it was indeed a natural kind existing "out there," independent of the consciousness that had conceived it.

The imagination conceives the centaur, but the artist is responsible for giving an air of reality to this fiction: "his reasoning faculty has led him to observe how the different parts of an animal are united and welded together; he will therefore join the vertebral column of a man with that of the horse, the shoulders of the horse will give place to the hips of the man. He joins the abdomen of the man to the breast of the quadruped with such perfect address the most experienced critic would imagine he was contemplating a correct and delicate study from nature" (Lecture I, 25-26). For Viollet-le-Duc, an understanding of anatomical structure and physiological organization was the marker of any creation's life-like status. By constructing such an internal structure, Viollet-le-Duc notes, "the impossible becomes so like reality that even now we think of the centaur as living and moving; [it is] as well known to us as the dog or the cat" (26). Viollet-le-Duc believed that the centaur (picture) had become so legible and coherent that it now existed independently of its radically subjective production; it had acquired an objective stability and repeatability verging on the scientific. Centaurs were now "classifiable" entities with distinct properties that could thus potentially generate further knowledge: a body of information that could be inter-subjectively shared, rather than intra-subjectively imagined.
Viollet-le-Duc's contemporary in England, John Ruskin, provides a similar example with his "True and False Griffins" in volume three of *Modern Painters* (1846-60) (104-11). The "true" Lombardic Griffin is made through such a convincing union of both horse and eagle that it appears to have been generated naturally from within, rather than artificially composed from without. According to Ruskin, the imagination creates the griffin "as if [my emphasis] it were gathering up the bones of the real creature out of some ancient rock" (109).

In Viollet-le-Duc's drawings for Pierrefonds (Figs. 1, 2), a chateau restored for Napoleon III, both real and chimerical creatures are rendered with striking white highlights which provide an underlying anatomical structure to their surface appearance.

These drawings display an internal structure—a syntax—that is not only achieved through patient observation of real organisms, but also through an experimental imagination that probes or dissects beneath the surface of representation in order to produce new knowledge. As Claude Bernard, the great experimental physiologist and contemporary of the architect, noted, "With the help of active experimental science, man becomes an inventor of phenomena, a real foreman of creation" (18). Gothic architecture—which was previously maligned or romanticized as incoherent and mystical—is analytically dissected and imaginatively shown by Viollet-le-Duc to have an internal structure and order equivalent to any living organism. Through dissective strategies of presentation, Viollet-le-Duc could re-member Gothic architecture "as if" it was a completely scientific and rational structure. His drawings for Pierrefonds are but two specific examples of Viollet-le-Duc's systematic, graphic re-imagination of Gothic architecture.

The most effective and sustained application of Viollet-le-Duc's dialectic between dis-membering and re-membering occurs in the illustrations—better yet, demonstrations—found in his ten volume *Dictionnaire Raisonné*
of French Gothic architecture, published between 1854 and 1868).  

The *Dictionnaire* was the amalgamation of all his experience restoring Gothic architecture for the Monuments Historiques; it was the locus not only for his observations about the architectural past but also for his belief in the French Gothic as a laboratory for future architectural creation. The anatomical analogy is the guiding metaphor of the *Dictionnaire*: to cut, separate, and imaginatively synthesize the structures of Gothic architecture is the *modus operandi* of his most famous text.  

In particular, Viollet-le-Duc was influenced by the conceptual and graphic practices of the famous comparative anatomist, Georges Cuvier. Cuvier’s practice offered the most sophisticated example of dissective methodology as applied to the study, excavation, and reconstruction of extinct fossil vertebrates: a methodology that Viollet-le-Duc imaginately adapted for his own architectural investigations and restorations.

In the entry on “Restoration” in the *Dictionnaire*, Viollet-le-Duc specifically acknowledges his debt to Georges Cuvier: “Cuvier, by means of his studies of comparative anatomy, as well as his geological research, unveiled to the public almost literally from one day to the next a very long history of the world” (“Restoration,” *Foundations* 197). Cuvier’s “unveiling” of history was at the heart of his radical departure from the old order of natural history. His move from a Linnean taxonomy—based on external character traits—to a classification centered on the internal functions of the biological organism, initiated a paradigm shift from natural history to a history of nature. As Foucault noted in the *The Order of Things*: “From Cuvier onward it is life in its non-perceptible purely functional aspects that provides the basis for the exterior possibility of classification . . . the possibility of classification now arises from the depths of life, from those elements most hidden from view” (268).

Following Cuvier’s example, the restoration and classification of France’s architectural past—under the guidance of Viollet-le-Duc—would henceforth be predicated on internal structures and functions rather than a taxonomy of external and historical forms. Viollet-le-Duc specifically indicated that although the architect responsible for restoration must be familiar with the style and form of the building he is restoring, more importantly, he must know “the structure, anatomy, and temperament of the building” (“Restoration,” *Foundations* 216). For Cuvier and Viollet-le-Duc, the primary means of revealing the interior structure of the biological or architectural organism was dissection. Viollet-le-Duc’s Cuverian amalgamation of dissective methodology, anatomy, and physiological explanation is neatly summed up in the preface to the *Dictionnaire*, where he states that in order
to understand the complex nature of Gothic architecture and its numerous
parts, one must "dissect, as it were, each building, as well as describing the
functions and applications of all the component parts" (vi).

If Viollet-le-Duc was going to implement anatomico-physiological strat-
egies to maximum effect in the Dictionnaire, he would have to inscribe
them not only conceptually and textually, but also visually. The spatial
relationships of anatomy were best conveyed by visual means. As Cuvier
often noted, the functional relationship of organs was a physiological coor-
dination rather than a geometrical juxtaposition (Coleman 68). Viollet-le-
Duc utilized the techniques of representation from anatomy itself because
the strict architectural set of plan, elevation, and section was exactly the
type of geometrical abstraction inimical to both his physiological interpre-
tation of Gothic architecture and to his valorization of what Foucault has
called the regard médical: the increasingly analytic gaze of nineteenth cen-
tury science.

In addition, I would suggest that it was also anatomy's graphic capa-
bilities to direct the viewer's gaze, and hence knowledge of the object pre-
sented, that Viollet-le-Duc found so attractive. Anatomy and its graphic
representation is, by its very definition, an active critical process involving
the cutting, separating, and exposing of certain organs for display at the
expense of others. By inscribing the anatomical metaphor within his archi-
tectural drawings, Viollet-le-Duc could filter the viewer's conception of
Gothic architecture through his own appropriation of anatomy's selective
methods of representation. Thus the Dictionnaire operates as an imagina-
tion technology: it is an instrument for the extension of imagining or visual-
izing activities through the selective amplification and suppression of mat-
ter, form, and content.12 The images in the Dictionnaire are never merely a
reflection of a historical entity called Gothic architecture but rather a criti-
cal element in the construction of that history.

The two large-scale exploded views of a vault springing (Fig. 3) and a
portion of a nave wall construction from Notre-Dame at Dijon (Fig. 4) are
the most obvious examples of Viollet-le-Duc's novel drawing techniques
and are emblematic of the visual strategies implemented throughout the
Dictionnaire. There is no precedent for the exploded view in the tradition
of academic architectural drawing; however, it has a long tradition in anat-
omical and machine drawing dating back to the sixteenth century.13 The
exploded view reappeared with renewed vigor in nineteenth century anat-
omical illustration due, in no small part, to Cuvier's use of it to demon-
strate his system of classification based on function.
Dorinda Outram's pertinent observation that Cuvier's *Gallery of Comparative Anatomy* at the Muséum d'Histoire Naturelle was full of objects to be looked not at, but into, probably refers to the striking number of skeletal parts displayed *demontées* and *séparées* (175-76). Exploded skulls (Fig. 6) and vertebrae (Fig. 5) were pried apart, each bone separated from the next by metal rods. They encouraged the visitor to compare, contrast, and look into the differences and resemblances between species according to the functional properties of each bone, and the functional interrelationship of each bone within individual specimens. Cuvier's exploded views were quickly adopted by functional anatomists such as Jean-Marc Bourgery (Fig. 7), whose anatomical atlas was owned by Viollet-le-Duc and reviewed twice by Étienne Delécluze, Viollet-le-Duc's uncle.
The materiality of Bourgery’s finely dissected parts were characterized by Delécluze as vérités palpables, palpable truths ("Des travaux anatomiques" 210). Prosper Mérimée characterized Viollet-le-Duc’s images for the Dictionnaire in similar terms: “The plates . . . thus render the descriptions palpable” (216); and further, “it’s as if reality was substituted for convention” (217).

Viollet-le-Duc’s exploded views (Figs. 3, 4) “showed” the organic interrelation of adjacent parts where each element that carried a load maintained its own independent function and could be freely compressed. With Viollet-le-Duc’s visual and textual guidance, the reader/viewer, in an act of participatory cognition, reconnected the exploded masonry and in the process reenacted how the stress and strain of the vaults was transmitted down and out to the buttresses. Each stone in the springing of the vault served a definite purpose and related to the next in an organic union of interacting forces. Because Viollet-le-Duc believed medieval architecture embodied and distilled the principles of nature, he considered it a veritable “architectural organism” ("Style," Foundations 259).

Thus the exploded view “figured” a fundamental concept for Cuvier, Bourgery, and Viollet-le-Duc: natural kinds. The concept of natural kinds posits that there are divisions, gaps, or orderings in nature that exist independently of our conceptualization of them. Philosophical parlance often
describes natural kinds as “cleaving nature at the joints.” This unfortunate phrase taken from Plato, though inaccurate, does serve a point. It appears that it is difficult to avoid speaking of natural kinds in anything but metaphorical terms—to describe nature as a vertebrate dissected at its articulations. Viollet-le-Duc conflates literal description and metaphoric analogy by inscribing the exploded view directly into his drawings; the drawings collapse the semantic space necessary for the technique of metaphor. The metaphorical vertebrae become the literal backbone of his Gothic architecture (Fig. 4), and the reader/viewer is encouraged to scientifically analyze the structure “as if” it were a real organism by the instructions in the adjacent text: “Let’s dissect this construction piece by piece” (“Construction,” Dictionnaire 140).

In a striking visual contrast to the paradigm of graphic dissection in the Dictionnaire, Viollet-le-Duc also synthesized features from numerous Gothic cathedrals into ideal typologies. Viollet-le-Duc’s entry on “Restoration” in the Dictionnaire begins with the following highly epigrammatic—and enigmatic—summation of his views on architectural restoration: “To Restore an edifice means neither to maintain it, nor to repair it, nor to rebuild it; it means to establish it in a finished state, which may in fact never have actually existed at a given time” (“Restoration,” Foundations 195). The ultimate visual embodiment of Viollet-le-Duc’s statement is the bird’s-eye view of the “Ideal Cathedral” (Fig. 8) in volume two of the Dictionnaire. As Barry Bergdoll has noted, Viollet-le-Duc created “an ideal invented composite, a perfect Gothic cathedral as such as even the Middle Ages had failed to realize in a single building”(251). However, like Viollet-le-Duc’s centaur, this imaginative construction is intended to produce real inter-subjectively shared knowledge even though it does not correspond to any known Gothic structure in existence.

The process that led to Viollet-le-Duc’s “Ideal cathedral” involved a similar idealizing process on a smaller scale. Each individual Gothic monument was graphically restored to its supposed original state according to the purity of its ideal-type, worked out by Viollet-le-Duc in terms of regional schools of architecture (“Architecture,” Foundations 79). Such an idealizing composite figure is also a prominent feature in Cuvier’s fossil reconstructions and Bourgery’s practice of functional anatomy. Bourgery, in the first volume of his anatomical atlas, explains that he created an ideal human body type in order to facilitate comparison between all anatomical elements in the atlas (Traité complet 3). As Lorraine Daston and Peter Gallison have
noted, “The purpose of these atlases was and is to standardize the observing subjects and observed objects of the discipline by eliminating idiosyncrasies” (84-85).

Figure 8

The comparative method initiated by Cuvier and adopted by Bourgery and Viollet-le-Duc was a procedure for eliciting the secrets held by empirical data. The ultimate goal was to subsume the constant flux and variation
of phenomenal data to law-like statements. Thus, the interpretive act involved in constructing the ideal type—the differentiating of the perfect from the accidental or variable—was never seen as a submission to subjectivity, but rather as a bulwark against it. Like Cuvier or Bourgery, Viollet-le-Duc’s exhaustive anatomical exploration of the Gothic monument was only possible through the matrix of ideal typologies. Therefore, there is no real dichotomy between dissecive analysis and imaginative synthesis in the Dictionnaire (Figs. 3, 8)—one cannot function without the other. In Viollet-le-Duc’s method, the construction of ideal types allowed him to explore the minutiae of each structural element with law-like confidence, and the dissection of each element in the Gothic structure provided—or perhaps confirmed—the knowledge for the construction of those ideal-types.20

Viollet-le-Duc’s graphic restorations problematize any clear distinctions between fact and theory, analysis and construction, scientific objectivity and creative imagination. Viollet-le-Duc’s approach to the architectural past was not about reclamation or revival, but an act of critical imagination—an analysis that distilled and transformed the material structures of the past into new “relevant kinds” of architecture for the present. Viollet-le-Duc’s incessant probing of Gothic architecture in the Dictionnaire Raisonné constructed a scientific body of architectural knowledge, the critical and rhetorical power of which continues to influence our understanding of the architectural past and present to this day.

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Notes


4 Viollet-le-Duc provides a more detailed discussion of the centaur in Lecture 1, pp.25-26.


7 The passage continues: “The physiologist—Cuvier in hand—comes and proves that this creature, which you know as well as if you had seen it running in the woods, could never have existed—that scientifically it is a chimera—that it could neither walk nor digest—that its two pairs of lungs and its two hearts are the most ridiculous of suppositions. Which would be the barbarian, the savant or the Greek sculptor? Neither: but the criticism of the savant shows us that Art and the knowledge of facts—Art and Science—Art and Civilization—may hold their course utterly apart. What matters it to me as an artist that a man of science proves to me that such a being cannot exist, if I have the consciousness of its existence; if I am familiar with its gait and its habits; if my imagination pictures it in the forests; if I endow it with passions and instincts? Why rob me of my centaur? What will the man of science have gained when he has proved to me that I am taking chimeras for realities? Most certainly the Greeks of Aristotle’s time knew enough of anatomy to be aware that a centaur could not actually exist; but they respected the Arts in an equal degree with Science, and would not suffer the one to destroy the other…”

8 See Stephen Bann’s commentary on Ruskin’s “True and False Griffins” in his introduction to Frankenstein, Creation, and Monstrosity, ed. Stephen Bann (London: Reaktion Books Ltd., 1994), pp. 5-6. Bann states that “what is being vindicated [in the example of the “True and False Griffins”] is the psychological truth of an aesthetic effect that is also, and crucially, the result of patient and clear-sighted observation.” And the result, I would also add, of imaginative excavation, dissection, and reconstruction as the following quote from Ruskin indicates.

9 The best book on experimental realism is Ian Hacking’s Representing and Intervening: Introductory Topics in the Philosophy of Natural Science (Cambridge: Cambridge UP, 1983). Dissection has been the root metaphor for active “experimental” imagination (as opposed to passive observation) since Bacon and Locke.


I have provided a more in-depth account of the historical development of the exploded view in my M.A. thesis, Architecture under the Knife. See footnote 11.


This quote and the following are taken from Mérimée’s review of volume one of the Dictionnaire which appeared in Le Moniteur universel, samedi 30 décembre 1854.


The striking use of the scientific imperative (let’s) and ostensive language (this) in this short sentence is, in fact, ubiquitous throughout the Dictionnaire.

Viollet-le-Duc classified the high Gothic churches into the following regional schools: Ile-de-France, Champagne, Picardy, Burgundy, Anjou and Maine, and Normandy.

The ideal body is a thirty year-old Caucasian male “doué des plus heureuses proportions.”

Whether this is a vicious or productive methodological circle is still debated within the scholarship on Viollet-le-Duc.

Goodman, Ways of Worldmaking, p. 10: “I say ‘relevant’ rather than ‘natural’ for two reasons: first, ‘natural’ is an inapt term to cover not only biological species but such artificial kinds as musical works, psychological experiments, and types of machinery (including imagination technologies such as Viollet-le-Duc’s Gothic Architecture); and second, ‘natural’ suggests some absolute categorical or psychological priority, while the kinds in question are rather habitual or traditional or devised for new purposes.”

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2. Eugène Viollet-le-Duc, Drawing of a Cat, support for a dormer window, Pierrefonds, Compositions et dessins de Viollet-le-Duc, pl. 58, Paris, 1884. (Photo Northwestern University Library)


5. Georges Cuvier, Exploded view of vertebrae from a Mastodon, Recherches sur les Ossemens Fossiles, atlas 1, p. 23, 1834-1836. (Photo Northwestern University Library)


Sites of Memory

Tracing France's Cultural Self-Consciousness

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Ce serait le moment de philosopher et de rechercher si, par hasard, se trouvait ici l’endroit où de telles paroles dégèlent.

Rabelais, Le Quart Livre

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