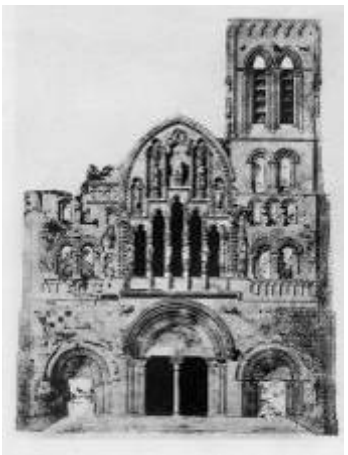
Resolving Archaeology: Tenets and Technologies

There is a fundamental dichotomy in the world of archeological recovery of the past, and I'd like to trace it back to its 19th-century origins, for modern archaeology came about then, when the attitudes and tenets of the profession were first shaped. As I see it, it all begins with two men, neither trained as an archaeologist: Eugène Viollet-le-Duc and John Ruskin. Both continue to fascinate historians, architects, and archaeologists to this day; witness the many volumes of Viollet-le-Duc's writings that are available on Amazon, such as his *Lectures on Architecture*, or the many facsimile reprints of his books. Françoise Bercé's 1988 New York exhibition of his work was aimed at restoring the architect's sullied reputation,[1] so bad in the years after he died that the Impressionist painter, Renoir, upon learning that he had contracted an apartment by a street named after Viollet-le-Duc, announced that he would cancel the contract, rather than see that name several times in the course of a day.[2] Of Ruskin himself there are several of his books still in print, such as *The Stones of Venice*, *The Seven Lamps of Architecture*, and a 38-volume facsimile edition in paperback of all of his writings, not to speak of numerous biographies as well as some of the articles and papers cited below.

Before the work and influence of these two men, ancient monuments of all kinds were maintained, completed, or restored according to the style and practices of the time of the intervention, which is why so many medieval structures, built over years, often had disparate styles, as in the case, for instance, of **Chartres Cathedral**. This is apparent in the picture at right, where the South tower is in the same Norman-Gothic style as the rest of the building, including the façade, while the North tower is in the Flamboyant style of 16th Century. The dissonance in styles is clear, but it is accidental, because when the later tower was built, no one thought in terms of restoration, but rather of new construction in the current style of the day.

After the anti-clerical frenzy of the French Revolution, the Bourbon Restoration led to a revived interest in church architecture of the Middle Ages, especially of the Gothic style that prevailed from 1140 until the early 16th Century.[3] However, it wasn't until 1830 that the post of Inspector General of Historic Monuments was created by François Guizot, Education Minister to King Louis-Philippe. The Commission on Historic Monuments was created in 1837, largely comprised by archaeologists, with the purpose of the preservation of French monuments that were in a state of ruin or decay. There were no guidelines or tenets regarding archeological interventions at first, and work done by trained architects before Viollet-le-Duc, as on the Basilica of St-Denis, in Paris, for example, where a restored tower by François Debret collapsed of its own weight, could prove disastrous.[4]

Viollet-le-Duc, was a gifted, polymath architect of wide influence, who, along with his sometime partner, Jean-Baptiste Lassus, helped bring about the Gothic Revival in France. Viollet-le-Duc has been much disparaged for many of his archeological interventions, which often included modern building materials, such as the then-new technologies of



cast iron and cement, and for his "improvements" by means of removals, additions, or recreations to the architectural fabric. He is the earliest theoretician as well as practitioner of restoration, starting with his first project, the salvage of the **Basilica of Vézelay**, from 1840 to 1847 For this he was praised by Paul Léon: "While the spire of Saint Denis was ruined by the mistakes of Debret, the unsteady church of Vézelay was saved by Viollet-le-Duc."[5] Didron, however, while giving credit to the architect for his work on Vézelay, nonetheless considered it to be more a reconstruction than a restoration.[6] For instance, Viollet reconstructed a tympanum sculpture to replace the one that was lost, and added a balustrade to the top of the bell tower where there had been none before, as can be seen by comparing the two pictures on the left.

The reason is to be found in a key tenet of Viollet-le-Duc's:

> "To restore a building is not to repair or reconstruct it; *it is to reestablish it in a complete condition which may never have existed at any given moment*. It is only from the 2nd quarter of our century that attempts have been made to restore the edifices of another age . . . ."[7]

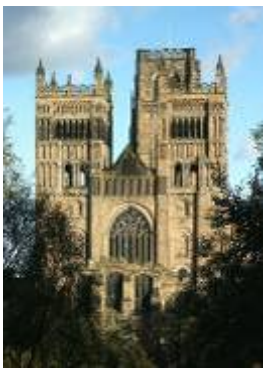
In his rational approach to the restoration of ancient buildings, to be found in his monumental, 10-volume *Dictionnaire Raisonné de l'architecture de France*, he wrote that "It is essential, before any restorative work is done, to determine the exact age and character of each part, to compose a sort of record based on authentic documents." Amongst these documents would be the daguerreotypes that he so enthusiastically employed and used to good effect at Carcassonne. He also made the point that:

> Monuments have often been repaired several times . . . . If it is a question of restoring both the unaltered parts and those that have been modified . . . should one reestablish the unity of style, or exactly reproduce the whole, even with the subsequent modifications?"[8]

Over the years he worked on various important ancient sites, including **Ste-Chapelle**,[9] (seen to the right), as well as the **Abbey Church of St-Denis** (in part to repair the damages imposed by Debret), Notre-Dame de Paris (1845-70)—all badly damaged at the time of the French Revolution—the walled town of Carcassonne (1853-79), and others. The crux of his approach to restoration was the idea that a structure had to possess a complete unity of style in all respects, including architecture, decoration, statuary, and functional elements, such as water drains. In other words, he saw each monument as a kind of *Gesamtkunstwerk* [or Complete Work of Art]. This was also the crux of the problem with his restorations . . . he felt it was more important to impose a unity of style that never existed respecting the fabric of the monument as it was at the time of his intervention.

Take, for example, **Notre-Dame de Paris**: which underwent restorations over a period of twenty-five years. Viollet-le-Duc restored much of the West façade, especially the sculpture damaged during the French Revolution as a result of a frenzied anti-monarchism that led to the beheading of the statues of the Kings of Israel in the mistaken belief that they represented the Kings of France—these were restored, as were scenes of the Last Judgment reliefs and even the gargoyles that were added by him on the bell towers. He also replaced a large flèche or pointed spire directly over the crossing of the cathedral to replace one that had existed before the Revolution and copied it from the one on nearby Sainte-Chapelle, itself an 1854 recreation of a spire in 15th-century style. Yet, much of his work was done using modern materials in the belief that these would prove to be of superior stability and longevity than the originals, but such was not to prove the case, and new restoration work has had to be done on a number of his restorations, including St-Denis (as recently as 1977) and Vézelay.

Nevertheless, one of Viollet-le-Duc's most important innovations was the demand that there be highly-detailed, careful documentation of the restoration process, including both pre-restoration as well as after. This is especially apparent in his work at **Carcassonne**, which he restored to what he considered to be its 18th-century state.[10] This remains a fundamental tenet of all archaeological intervention today. However, his use of the technology of his day, especially cast iron and concrete, was by later lights pretty misguided. Still, his meticulous documentation, in the form of drawings, elevations, and plans of all parts of the ancient city, as well as a full photographic survey of the town in its present condition before restoration, show the extraordinary care that he took to provide a full record both of what had existed and of what he proposed to do. Important aspects of both Viollet-le-Duc's tenets as well as his practice of restoration merit much criticism, especially from today's viewpoint. Still, the fact remains that Viollet-le-Duc did save many important monuments from complete destruction and they are much enjoyed by the wider public, who make pilgrimages as tourists to places like Carcassonne.



Sir George Gilbert Scott (1811-98), like Viollet-le-Duc, was a leading architect of his day and a leader of the Victorian Gothic Revival movement in Britain. He also was an architectural restorer of churches much like his French counterpart, and was responsible for the restorations of **Durham Cathedral** as well as Tewkesbury Abbey, Litchfield, Westminster and many other ecclesiastical structures throughout the British Isles. In *A plea for the faithful restoration of our ancient churches,* a paper he delivered in 1848, he said that "the torrent of destructiveness, which, under the title and in the garb of 'Restoration,' threatens to destroy the truthfulness and genuine character of half of our ancient Churches."[11] However, as one commentator put it, "Scott's view of what is 'faithful' is somewhat sketchy, and he was not always true to the past in his own restorations."[12] Witness the differences between Scott's restoration as seen today, and a print of how it looked in the 17th century. Nevertheless, Scott was a skillful and dedicated architect, and much like Viollet-le-Duc, sought to restore old buildings to approximately what they 'should have been' at some time.

John Ruskin (1819-1900), an art critic and theorist, stood in direct opposition to Viollet-le-Duc and Scott. In reaction to the work of these men, he wrote in his *Seven Lamps of Architecture*, first published in 1849, that:

> Neither by the public, nor by those who have the care of public monuments, is the true meaning of the word *restoration* understood. It means the most total destruction which a building can suffer: a destruction out of which no remnants can be gathered: a destruction accompanied with false description of the thing destroyed. Do not let us deceive ourselves in this important matter; it is *impossible*, as impossible as to raise the dead, to restore anything that has ever been great or beautiful in architecture.[13]

Bear in mind that in the mid-19th century much restoration consisted of scraping down old stone to produce a clean, new surface.[14] Ruskin had a deep, even mystical respect for Gothic architecture and old buildings in general. To him, the building's *age* was the most important aspect of its preservation:

> For, indeed, the greatest glory of a building is not in its stones, not in its gold. Its glory is in its Age, and in that deep sense of voicefulness, of stern watching, of mysterious sympathy . . . which we feel in walls that have long been washed by the passing waves of humanity.[15]

Ruskin, though a leading light for preservation, had some rather bad ideas about how to go about it: for one, he advocated that, if a structure were in danger of falling down, it be visibly propped up with timbers, or held together with iron clamps. Still, he shared with Viollet-le-Duc an enthusiasm for photography of early architecture as "a precious historical document; and that this architecture should be taken, not merely when it presents itself under picturesque general forms, but stone by stone, and sculpture by sculpture."[16]

The Society for the Protection of Ancient Buildings (SPAB) was founded by William Morris and others in 1877 "as a direct result of Scott's draconian proposals for the

'restoration' of Tewkesbury Abbey."[17] In fact, it was inspired in good part by the writings of John Ruskin, particularly the *Seven Lamps*. It was known as the "Anti-Scrape" movement because it was opposed to restoration as defined by Ruskin. It published a manifesto of conservation principles that extended protection to "all times and styles" and is still the philosophical basis for the Society's work today.[18] What was significant in this case was that it repudiated the idea of a uniform style in restoration:

> A church of the eleventh century might be added to or altered in the twelfth, thirteenth, fourteenth, fifteenth, sixteenth, or even the seventeenth or eighteenth centuries; but every change, whatever history it destroyed, left history in the gap, and was alive with the spirit of the deeds done midst its fashioning.[19]

Though Morris, a famous and influential designer who also was an instigator of the Arts and Crafts movement, was not a trained archaeologist, he and his followers understood the principle of minimal or limited intervention. This was especially true of his associate, Philip Webb, who, as Summerson says, " . . . took Ruskin's romantic and technically rather horrifying ideas of wooden props and iron hoops and devised more seemly, permanent, and effective, but no less frank and honest substitutes."[20] For example, Webb would deal with weak and fractured walls by "mining into a patch of the wall and filling with [cement strong as steel]; then by forming another hole next to the filled part the work could be extended by degrees in a band throughout the wall."[21] So yet another tenet of intervention was devised, that of keeping the structure intact as found, to the extent possible depending on the necessary intervention, and using new technology where appropriate. As Summerson points out, "[It] was the kind of practical interpretation of Ruskin which Webb was good at inventing; and some of his devices are still recommended."[22]

Let us move on to Sir Arthur Evans (1851-1941), who in the spirit of the 19th-century individualist, approached archaeology in his own distinctive way. Unlike the earlier pioneers, Evans was steeped in archaeology, his father having been an amateur in the field. He was well-versed in Greek mythology and had ambitions comparable to those of his contemporary, Heinrich Schliemann, who excavated the ruins of Troy and Mycenae and published his findings, much to the excitement of the Western world. Evans was convinced that he would discover an ancient society that was linked to those of Mesopotamia and Egypt, and what he discovered in Crete, particularly at Knossos, seemed to him to provide the evidence for just such a society. Though many of his conclusions have been questioned or challenged over the years, some have actually been borne out by more recent evidence. But even with the most recent excavations, there are still more questions than answers. However, in the purview of this paper, we can only attend to his intervention methodology at **Knossos**.

As explained in the *Athena Review*:

> Restorations and reconstructions of portions of the walls and foundations often used reinforced concrete, with reconstructed timber frames and other wooden structures painted in a pink or buff color. Numerous examples of the . . . frescoes, discovered mainly as small fragments, were boldly restored. Evans is also responsible for restoring many of the . . . rooms within the palace, such as the Throne Room, with its pair of griffins in a fresco flanking a gypsum stone seat. These restoration methods have been often criticized for both over-interpretation of sometimes scanty remains, and for using materials foreign to Minoan architecture.[23]

It was said, in fact, that the earliest reinforced concrete structure in all of Crete was that by Evans built on the ruins of Knossos. Evans called his method of restoration "reconstitution," but if one were to call a spade shovel in this instance, it would be more correctly called a recreation, as the result is therefore highly conjectural.[24]

Evans was perhaps the last of the great archaeological excavators-cum-restorers to work essentially alone, devising his own means of restoration as he saw fit, unaffected by any treaties, charters, or external guidelines, as these did not exist for much of the time that he was doing his work. Until the first international charters were published and promulgated, archeological interventions were largely personal in nature, however rational or disciplined they tried to be. Thus the tenets that were developed by Viollet-le-Duc and Ruskin were themselves based on the philosophical precepts to which each subscribed, leading to diametrically-opposite conclusions. The use or lack of use of then-existing technology was also a personal choice.

It was partly in response to the subjective nature of the work of those discussed above, as well as the need to establish internationally-accepted standards, that the international charters dealing with preservation and restoration were first worked out, beginning with the Athens Charter for the Restoration of Historic Monuments adopted in 1931, which introduced the concept of international heritage. It was in the Athens Charter that anastelosis (αναστήλωση, *not* 'anastylosis,' a misspelling) was recommended in Article VI, on the Technique of Conservation:

> In the case of ruins, scrupulous conservation is necessary, and steps should be taken to reinstate any original fragments that may be recovered (anastylosis), whenever this is possible; the new materials used for this purpose should in all cases be recognisable.[25]

The idea behind ICOMOS (International Council on Monuments and Sites) dates to the Athens Conference and was organized by the International Museums Office. In 1964, the Second Congress of Architects and Specialists of Historic Buildings, meeting in Venice, adopted 13 resolutions, which were incorporated in the International Charter on the Conservation and Restoration of Monuments and Sites, better known as the Venice Charter; the second Venice Charter, of 1994, under the aegis of UNESCO, created ICOMOS to carry out the tenets contained in the resolutions.

The Venice Charter of 1964 set out the parameters and limitations of archeological restoration in very clear terms. The prime aim was always to be conservation and preservation, but Articles IX through XIII made explicit what was allowable and what was not with respect to restoration, but Article XV cut to the chase:

> All reconstruction work should however be ruled out "*a priori*." Only anastylosis [sic], that is to say, the reassembling of existing but dismembered parts can be permitted. The

> material used for integration should always be recognizable and its use should be the least that will ensure the conservation of a monument and the reinstatement of its form.[26]

But one could argue, with respect to tenets regarding anastelosis had themselves to be developed and revised, based on both experience and technology. There is good anastelosis and bad. According to Mallouchou-Tufano, in her article, "Thirty years of anastelosis work on the Athenian Acropolis, 1975 – 2005," the first anastelosis project undertaken on the Athenian Acropolis by the civil engineer Nicolaos Balanos over a period of forty years (from 1898 to 1939),

> . . . visually . . . may be considered successful, for he managed to retain the character of the monuments as ruins—by using to a great extent ancient material, adding very little that was new. Yet, from a technical standpoint, the interventions were catastrophic. Applying the technology of the time in an inappropriate way, Balanos incorporated iron reinforcements . . . within the architectural members . . . and encased them in cement . . . [in the] belief that this would counter the problem of their corrosion.[27]

As a result, after years of consideration, debate, and planning, a new restoration of the **Acropolis** monuments was undertaken, beginning in 1975 and continuing still today. However, the work now is done in a very different way from that of Balanos, thanks to a full reconsideration of how to properly undertake anastelosis, much of which is possible due to new technology, including the use of computers, machinery, and new metals such as stainless steel and titanium, as well as incorporating new Pentelic marble where needed to stabilize the damaged originals, such as the column drums.[28]

The result of all the reevaluation of how *anastelosis* should be carried out was summarized by Mallouchou-Tufano as the Principles Underlying the Anastelosis Work [see APPENDIX A].[29] These tenets may become the basis for a further, more refined revision of some of the international charters outstanding today, such as Article XV of the Venice Charter, or even the World Heritage Convention Operational Guidelines of 2008, which states:

> In relation to authenticity, the reconstruction of archaeological remains or historic buildings or districts is justifiable only in exceptional circumstances. Reconstruction is acceptable only on the basis of complete and detailed documentation and to no extent on conjecture.[30]

Yet, for all of the charters, treaties, and international organizations dedicated to the preservation and internationally-accepted and defined means of intervention of archeological sites, the fact remains that these norms are often ignored in the interest of tourism and the notoriety and income that comes with it.

What to do about the archaeology tourist? He typically arrives at a site as part of a tour group, led by a guide usually not an archaeologist who regales the visitors with tales of myths and legends associated with the site, points out the excavation highlights, and then moves the group on as quickly as possible so that the next group can go through. Perhaps the guide mentioned—in passing—those parts of the site were reconstructed or restored. But to the tourist, what does that actually mean?

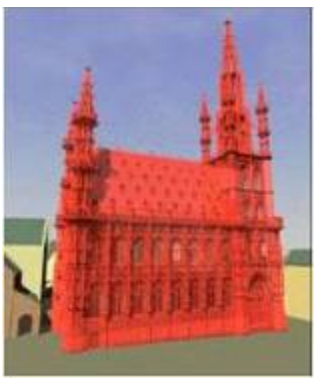
What, indeed, to make of terms that differ in meaning: reconstruction, reconstitution, restoration, preservation, conservation, of a site. The tourist may not differentiate at all,

or a term may be used too loosely. Why does it even make a difference which term is used? This brings us to the crux of the problem at hand. What to do with a site that has historical or heritage value? Purely archaeological needs may have to give way to political pressure to recover a structure of national historical importance (such as Carcassonne) or to make a site a profit center for a municipality (as happened with the caves of Altamira). How best to achieve that for the municipality? Why, restore, or reconstruct, or recreate, or otherwise follow, in greater or lesser degree, in the footsteps of Viollet-le-Duc.

One happy way to provide tourists with a sense of an intact structure that is presently a ruin is to build a replica off-site (also known as horizontal displacement). The full-scale recreation of the **Parthenon in Nashville**, Tennessee in concrete is an example . It is true not only in scale, but even in incorporating the use of enthasis in the columns, and the horizontal curvature of the stylobate that is a key feature of the original monument. This could be considered the ideal way to please the tourist without having to suffer the adverse effects of site erosion, wear and tear, and upkeep costs, but it of course lacks authenticity, particularly since the site landscape is not similar, the actuality of the real monument is absent, and so on. Much less desirable is the recreation of a structure on its actual site, regardless of how accurate it may be, based on archaeological evidence on the ground.

An example of this is the **Stoa of Attalos** in Athens which Hartwig Schmidt, in his article, "The impossibility of resurrecting the past: Reconstructions on archaeological excavation sites," described as ". . . only a modern reconstruction, which could be erected again anywhere—like the 'Roman' villa at the J. Paul Getty Museum in Malibu."[31] The main reason that this *should* be and *is* discouraged is that the process on-site is irreversible and may make it difficult if not impossible to make changes on the basis of new information, not to speak of the inaccessibility to the original ruins for further excavation or exploration. Indeed, Nicholas Stanley-Price has suggested a set of tenets regarding site reconstruction that he believes ought to be included in the current Charters and the World Heritage Convention Guidelines [see APPENDIX B].[32] He also observed that "the surviving evidence for the former building . . . must not be destroyed or made inaccessible by the very act of reconstructing it" points to the possibility of using vertical displacement, which is to say, to build above the ruins rather than directly atop, if possible (as is currently done in Japan for certain religious sites). Now there's a technological challenge.

However, new technology today offers distinctly new possibilities, especially the use of the computer for digital reconstruction and recreation of damaged, lost, or ruined sites. One obvious example is that of the Acropolis, where the structures can be recreated in a variety of ways, such as to show the site at different periods, or to show the **old Temple of Athena** alongside the later **Parthenon**, which replaced it after the first temple was destroyed during the first Persian War. Another is to develop structural models for a planned restoration or reconstruction, as in the case of the **town hall of Leuven**. Such modeling can be used to provide means of allowing not only scholars but the public to see how ancient sites and structures were built, used, and altered over time. This is also of immense advantage in that it needn't involve direct access to the original site, except by professionals and scholars on a needs basis, thus reducing the pressure on the site.



Rather than allowing tourists to clamber over the actual physical remains of valuable and popular archaeological sites such as **Mahamalipuram** in India, with its rock-cut temples, or even of **Angkor Wat** in Cambodia, with its massive, moated ones, they could instead be visiting full-sized replicas (where the scale of the original allows it) of the original sites, particularly in cases where they are in danger of being damaged or perishing from tourist overexposure, as at the prehistoric, painted caves of **Altamira.** Another possibility is to have tourists exploring archeaeological recreations like the Viking Town that is part of the **Jorvik Viking Centre** in York, England. All of this is made possible by new materials as well as technologies that include both machinery and computer modeling and imagery. In fact, with respect to the issue of how to reduce the burden on archaeological sites by the tourist trade, digital reproductions may, if effectively made, be one way of achieving this. If it can be achieved economically, perhaps with financing from international organizations like UNESCO and foundations, this could pay for itself over time with the reduced demands for upkeep and maintenance of a site.

Perhaps we shall turn to the digital technology of the popular movie, ***Avatar*** , and use it to transport visitors through sophisticated, highly-detailed, palpably-real 3D recreations of sites so that the reduced access to the actual site that may be needed to conserve and preserve a site effectively shall not be so frustrating to the public, and far more amenable to the scholar and specialist.[33] Who knows what else the future shall bring us.

Then, at last, we can put aside Viollet-le-Duc and his successors, and focus on the approach first suggested by John Ruskin, with site conservation put first, and anastelosis the only means of restoration. Let Ruskin, then, have the last word:

> The single principle is, that after any operation whatsoever necessary for the safety of the building, every external stone should be set back in its actual place: if any are added to strengthen the walls, the new stone, instead of being made to resemble the old ones, should be left blank of sculpture, and every one have the date of its insertion engraved upon it.[34]

We now have the tenets and the technology to accomplish exactly that, though both the ways and the means shall continue to evolve and develop as new work is done, new problems encountered, and new issues present themselves.

ENDNOTES

[1] F. Bercé, *Viollet-le-Duc: Architect, Artist, Master of Historic Preservation*, with an introduction, co-written with B. Foucart, "Viollet-le-Duc and His Theories of Restoration," pp. 11-14.

[2] J. Russell, "Change of Fortune for Viollet-le-Duc," *New York Times*, 29 January 1989.

[3] F. Bercé and B. Foucart, "Viollet-le-Duc and His Theories of Restoration," p. 12.

[4] F. Bercé and B. Foucart, p. 13. Debret "was a controversial and overzealous restorer of historic buildings: he had worked on the basilica of St-Denis for many years when he started his dramatic transformation of the west front in 1839, adding details to the north tower unsupported by archaeology. When the tower began to collapse in 1846, Debret was dismissed, to the delight of those protagonists of the Gothic Revival who saw him as a reactionary in favour of academic Classicism."-- Architecture and Landscaping: article on François Debret. See also J. Dupont, "Viollet-le-Duc and Restoration in France," p. 15, who described Debret's work on the basilica as a "[heaping] up of abominations."

[5] As quoted by J. Dupont, in "Viollet-le-Duc and Restoration in France," p. 17.

[6] J. Jokilehto, *A History of Architectural Restoration,* p. 271.

[7] As quoted by F. Bercé and B. Foucart, in "Viollet-le-Duc and His Theories of Restoration," p. 11.

[8] As quoted by F. Bercé and B. Foucart, p. 12.

[9] According to an unattributed article published in 1921, "Immediately upon the outbreak of the Revolution the Sainte-Chapelle was seized and made to serve as a club and later as a granary, then as a repository for the archives of the Palais. At this time the most unpardonable mutilations of the monument occurred when three metres of the windows were taken out in order to place the cases.
"Mutilated within and without, its painting and gilding worn off or obliterated or buried under mould, its sculpture broken, deprived of its spire, its gables, its pinnacles, balustrades, and steeples, the building was so far gone that it was long a question of demolition. Louis XVIII and Charles X had wished vainly to restore the chapel of their ancestors, and finally, in 1837, in the reign of Louis-Philippe, the long contemplated reconstruction was begun. The work was first confided to Duban, then Lassus and Viollet-le-Duc were added. After the execution of the most pressing work Lassus carried the work to completion." Retrieved from http://www.oldandsold.com/articles08/paris-travel-17.shtml.

[10] "Viollet-le-Duc's choices for the restoration of the city's fortifications were the subject of strong criticism as early as 1872. This criticism was echoed in a letter from Jean-Pierre Cros-Mayrevieille to the Ministre des Beaux-Arts (Fine Arts minister: *"the idea was to stop the monument from falling down, to ensure its preservation and retain all its primitive characteristics; it has been rebuilt, made as good as new, it has been demolished in order to rebuild ..."*
The debate can be summed up in one theme: the question of the roofs. The conical roofs tiled with slate were regarded as an inappropriate imitation of northern French design. What the critics forgot, however, was that the city that Viollet-le-Duc had proposed was the one the king's engineers had wanted. In fact, this firm choice of uniformity disappointed those - particularly the people of Carcassone - who would have liked to have seen a more faithful restoration of the successive stages of the monument.
The voices of the critics won in the 1960s when, to break up the uniformity, the historic monuments department had some flat tiled and wood shingle roofs installed as well as Roman tile roofs for the Roman towers. Since the end of the 1980s Eugène Viollet-le-Duc's vision again became the reference out of respect for the coherence and consistency of the ideas that prevailed during the enterprise. These qualities were also expressly recognised by Unesco when the city of Carcassonne was named a World Heritage Site." -- from the Website, The Walled Town of Carcassone, http://www.carcassonne.culture.fr/

[11] G.G. Scott, *A plea for the faithful restoration of our ancient churches*. This book was based on a paper read before the Architectural and Archæological Society for the County of Bucks, at their first annual meeting in 1848, to which were added some miscellaneous remarks on other subjects connected with the restoration of churches, and the revival of pointed architecture.

[12] Mallgrave, *Modern architectural theory: a historical survey, 1673-1968,* p. 115.

[13] J. Ruskin, *The Seven Lamps of Architecture*, p. 194.

[14] J. Summerson, "Ruskin, Morris, and the "Anti-Scrape Philosophy," pp. 26-7.

[15] J. Ruskin, *The Seven Lamps*, p. 186.

[16] J. Ruskin, *The Seven Lamps,* p. . The Resolution of the Third Congress of Engineers and Architects, 1883, adopted the position that "Photographs should be taken of the monument prior to the initiation of even minor repairs, then gradually of all principal stages of the work, then of the completed work." (as cited in J. Jokilehto, *A History of Architectural Restoration,* p. 464.)

[17] "Scott, Sir George Gilbert," from A Dictionary of Architecture and Landscape, online, retrieved from http://www.encyclopedia.com/doc/1O1-ScottSirGeorgeGilbert.html

[18] W. Morris et al., Manifesto of the SPAB.

[19] Ibid.

[20] J. Summerson, p. 31.

[21] J. Summerson, quoting W.R. Lethaby, p. 31.

[22] J. Summerson, p. 31.

[23] Anonymous. "Sir Arthur Evans and the Excavation of the Palace at Knossos". *Athena Review,* Vol. 3, No. 3, (2003), p. 19.

[24] See N. Stanley-Price, The Reconstruction of Ruins: Principles and Practice, p. 33.

[25] International Council on Monuments and Sites (1931*). The Athens Charter for the Restoration of Historic Monuments.*

[26] The Venice Charter (1994).

[27] Mallouchou-Tufano, Fani (2006). "Thirty years of anastelosis work on the Athenian Acropolis, 1975 – 2005," p. 28. See also J. Jokilehto, *A History of Architectural Restoration,* pp. 396-7, for a more complete account of the work of Balanos and its consequences.

[28] Mallouchoi-Tufano, "Thirty years of anastelosis work," pp. 27-29.

[29] Ibid, pp. 30-33.

[30] UNESCO, Operational Guidelines for the Implementation of the World Heritage Convention, section IIE, paragraph 86, p. 22.

[31] H. Schmidt, "The impossibility of resurrecting the past: Reconstructions on archaeological excavation sites," p. 65.

[32] N. Stanley-Price, The Reconstruction of Ruins: Principles and Practice, p. 41.

[33] See H Schmidt, "The Impossibility of Resurrecting the Past," p. 65-66, regarding the issue of how to deal with the tourist industry; also see N. Stanley-Price, "The Reconstruction of Ruins," p. 43, whose conclusion is very similar to my own. A set of effective guidelines for the tourist industry is provided in the AIA and ATTA *A Guide to Best Practices for Archaeological Tourism* of 2009.

[34] From an 1877 letter to Count Zorzi regarding St. Mark's, Venice, as quoted in J. Summerson, "Ruskin, Morris, and the Anti-Scrape Philosophy," p. 28. (According to J. Jokilehto, *A History of Architectural Restoration,* p. 321, Ruskin and A.P. Zorzi were engaged in a campaign to save St. Mark's from a restoration program that they were convinced would do damage to the building. Zorzi published a book stating the case against restoration, William Morris and the SPBA became involved in the protest petitions, and eventually the program was cancelled.)

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APPENDIX A.

From "Thirty years of anastelosis works on the Athenian Acropolis, 1975-2005," by Fani Malouchou-Tufano, in Conservation and Management of Archaeological Sites, 2006, vol 8, pp. 30-33.

Principles Underlying Anastelosis Intervention

1. An interdisciplinary approach to the work, including both the theoretical and the practical.
2. Ensuring an objective approach to decision-making about interventions on the monuments to reduce errors.
3. Basing the interventions on scholarly research.
4. Meticulous documentation and recording of the interventions.
5. The use and application of traditional building materials and methods during the intervention.
6. The use of modern materials that are compatible with the original building material.
7. The use of up-to-date modern technology in carrying out research, organizing the worksites, managing documentation, and in performing interventions of a special nature.
8. Retention of the original structural system of the monument during the interventions through a choice of solutions for static strengthening that respects and complements the original structural characteristics *(one of the main principles of the new anastelosis)*.
9. Carrying out the interventions to be both non-destructive and reversible *(another main principle of the new anastelosis)*.
10. Information about the work itself and the additional knowledge it provides made as widely know as possible through publication both for the scholar and the public.

APPENDIX B.

From "The Reconstruction of Ruin: Principles and Practice," chapter in *Conservation: Principles, Dilemmas and Uncomfortable Truths,* by Nicholas Stanley-Price, edited by Alison Richmond and Alison Bracker (Elsevier, 2009)

Justifications for Reconstruction

1. **National symbolic value**. The building played an important role in the country's history, or was associated with an outstanding figure.
2. **Continuing function or re-use**. The reconstructed building can continue to serve its previous function or makes possible a new, different function.
3. **Education and research**. The process of reconstruction can be a rewarding research project, and the resulting building is an important didactic tool for visitors. 'Visitors love them.'
4. **Tourism promotion**. A reconstructed building can attract tourism and thus generate income for the public or private authorities that manage it.
5. **Site preservation**. Reconstruction, by showing that the site is being actively used, helps protect it from development pressures; alternatively, it may serve to stabilize precarious ruined structures.

Arguments against Reconstruction

A. **The evocative value of ruined buildings.** A ruined building left as it is can be more evocative of the past than that same building reconstructed.

B. **The difficulty (impossibility?) of achieving authenticity**. Reconstructed buildings are de facto new buildings, tending to reflect the culture and times of their creators, rather than being faithful reproductions of the original.

C. **The ethical issue of conveying erroneous information** . Inaccurate reconstructions can mislead the professional and lay publics unless identified as such.

D. **The destruction of original evidence**. Many reconstructions have either destroyed or rendered inaccessible the evidence on which they are based, to the detriment of future scientific research.

E. **The disruption of landscape values**. A reconstructed building in an otherwise ruined landscape distorts visual and spatial relationships.

F. **Distorted site interpretation**. The complexities of sites with a long history are obscured if they are reconstructed to feature a single period.

G. **Cost**. Reconstruction projects tend to be very expensive and often can only be financed by the political authorities who insist they be undertaken.

Towards some principles for site reconstruction

1. A reconstructed building—if based primarily on excavated evidence—must be considered a new building (reconstruction as a creative act).
2. Reconstruction of one or more buildings is to be considered only if the values (including the landscape value) of a site will be better appreciated than if the

buildings are left in a ruined state (the ruin as a source of inspiration or as a memorial).

3. The surviving evidence for the former building must be fully documented in such a way that this record is always available in the future (a scientific and ethical obligation to record for posterity).
4. The surviving evidence for the former building, or for different historical phases of it, must not be destroyed or made inaccessible by the very act of reconstructing it (a scientific obligation to allow [built] hypotheses to be verified or rejected).
5. The evidence—its strengths and its limitations—for the reconstructed form must be interpreted clearly to all visitors (an ethical obligation not to mislead or misinform the public).
6. Buildings that have been wrongly reconstructed in the past could, on a case-by-case basis, be preserved as they are (reconstructions as a part of the history of ideas).

APPENDIX C.

TERM DEFINITIONS:

- **Anastelosis** (αναστήλωση; hence *not* anastylosis) a type of intervention on monuments preserved in the condition of a ruin (per International Charters); used for existing but dismembered parts of monuments that are reassembled with the addition of new materials as needed for the repositioning of the original parts.
- **Conservation** In the United States, architectural conservation is used in the narrow sense and applies to the art/scientific treatment of cultural heritage and is considered to be a subset of historic preservation. In most other areas of the world, architectural conservation is used broadly for all aspects of the older built environment and is a subset of heritage conservation or cultural patrimony.
- **Consolidation** stabilization of a structure using minimal means that are not visible to the eye.
- **Intervention** a general term encompassing all manner of anastelosis, consolidation, reconstruction, restoration, conservation/preservation, or recreation
- **Preservation** (US term for Conservation), which encompasses Maintenance, Preventive Conservation, Repair, Consolidation / Stabilization, Reinforcement / Strengthening; also Restoration & Enhancement.
- **Reconstitution** Arthur Evans' term for Reconstruction, though in fact much of the work that he did would better be termed **Recreation**.
- **Reconstruction** refers to returning a structure to a known earlier state, and is distinguished from restoration by the use of new material in the structure, and is appropriate only where a structure is incomplete through damage or alteration, and only where there is sufficient evidence to reproduce an earlier state.
- **Recreation ,** also **Reconstruction,** the process of restoring a work on the basis of a few fragments, usually applied to painting or statuary, but also to structures, as in the case of Evan's work at Knossos.
- **Reintegration** the process of restoring a work on the basis of a surviving parts, usually applied to painting or statuary; but also to structures, as in the case of the Stoa of Attalos in Athens.
- **Restitution** the process of restoring a work on the basis of a few fragments, usually applied to painting or statuary; much akin to Recreation.
- **Restoration** Viollet-le-Duc: "the word and the thing are modern. To restore a building is not to repair or reconstruct it; it is to reestablish it in a complete condition which may never have existed at any given moment. It is only from the 2nd quarter of our century that attempts have been made to restore the edifices of another age . . . "—*Dictionnaire raisonné* / now the more accepted definition is that restoration is more along the lines of repair work (such as anastelosis), introducing little or no new material to the fabric of the structure, except as needed for stability.