



Photo by National Geographic Society Fellow
Chris Rainier, documentary photographer, First Peoples.

struggling with ornament

This book argues that architectural ornament is essential. The best of it helps us realize our potential as humans, as absurd as that claim might sound given ornament's black sheep reputation over the last 100 years or so. But no matter how much 20th century Modernism tried, ornament refused to leave architecture's high table. True, it retreated after some direct body blows, but newly emboldened, it has returned to insist on its rightful place. And if it is to regain that place with any dignity and authority, it demands a working definition, acquitted of accumulated encrustation and reification. This book attempts that realignment.

What follows is a layering of ideas about ornament from dissimilar vantage points. By holding this layered arrangement up to the light, one comes away with, I hope, a new understanding of ornament, this device that bridges order and disorder and the large with the small; this irreverent demon who nonetheless contours *civitas* and even grace into our architecture; this bridge that knits

and weaves urban fabric together; this eccentric without whose presence the normal is, ironically, impossible.

My goal is also to provide a guide through the rich forest of ideas swirling around the topic. Some ideas are centuries old, and based in the arts, but some are quite recent, emerging from a completely unexpected arena: science. Thus, this book is an attempt toward a multi-disciplinary definition of ornament—a “performance-based” definition that brings together research in history, evolutionary psychology, the cognitive sciences, anthropology, and architectural theory.

the task

Reconceiving ornament begins by examining some ordinary definitions of ornament along with some apparent synonyms that are often used interchangeably but that end up diluting and confusing its definition. Then, I set forth a working definition of my own, looking at what ornament *does* rather than what *it is or is not*, and discuss what some other writers have proposed over the past few centuries. I trace architectural ornament’s path to immortality in the West (a fate not shared by ornament in other traditions). I discuss the implications of new science that confirms ornament as a crucial element in our visual field. Finally, I describe how our expanding understanding of ornament may, in turn, inform how we could design our environment.

indoctrination and reification: life in architecture school

My initial exposure to architectural ornament was probably very similar to that of most living architects—that is, apart from the occasional sojourn in history classes, very little at all. Ornament

Although there is no architectural element or group of elements that can be labeled an ornament, or for that matter not, although it is virtually impossible to point to any architectural feature, in and of itself, as an ornamental feature, or not, nevertheless, virtually every author addressing the subject of ornamentation appears to assume ... that there is such a thing as ornament and that it is an addition or an appendage to the body of the edifice ... Ornament is not so much an element as it is a certain placement of any element with respect to another element ... The measure of ornament is never itself ... It does not designate so much a thing as a specific relationship between two things.” – Ameri.

was perfectly fine, admirable even, in its place in history, but history was ... just that. As a contemporary design discipline, ornament was inauthentic and far more to the point, irrelevant.

Even so, in our design studios we always sought ways to make our projects more interesting: introducing relationships between grids and geometries, playing with scales of materials and forms, changing rhythms and proportions, deliberating the role of the apparently *arbitrary*, a characterization indicating a *lack of intention* and therefore suspect. Spurred by the work of 19th century philosopher Edmund Husserl¹, we teased out aspects of the site/milieu/program/client to create an algorithm that would, in theory at least, inform the design with some subtle but profound resonance. Needless to say, we considered none of these moves as leading to ornament, even if I now recognize that the impulse to create ornament lay behind some of these strategies whose purpose was to animate architecture.

nature as ornamenter

My rejection and ignorance of ornament continued after school, perhaps slightly more nuanced after a few trips to Europe, but essentially unchallenged. Still, questions occasionally occurred to me. Even as I learned that well-done ornament has the power to make us literally *feel* better, why did I often *feel* better in what I had always assumed were *non*-ornamented spaces, such as those in, say, barns, silos--or pretty much any old industrial building--, or in traditional Japanese architecture? I believed (based on no personal experience of Japan whatsoever but relying wholly on images), that these kind of spaces were “unornamented” because I had adopted the Western layperson’s party line on Japanese space with its default caricature adjectives of spare, spartan, perfectly ordered, humble, disciplined, etc.

¹ Architectural training’s behind-the-scene source for creating self-directed methods for teasing out unexpected relationships inherent in a design problem, aka *deconstruction*.

Among the images I loved most were the 17th century Katsura and Shugakuin imperial villas near Kyoto. For a Westerner who had trudged through Europe's aristocratic gilt and pastel palaces or gazed adoringly at Michael Hopkin's

exquisitely small-boned steel box of a house in Hampstead Heath, London, 1976, or

Konstantin Melnikov's bizarre, fabulously functional Rusakov Worker's Club in

Moscow, 1929, these Japanese structures

with their simple white plaster walls,

horizontal lines and dark wood posts

symbolized a different relationship to

humanity as well as to nature. The style of



these buildings, after all, cut across class boundaries: their basic forms, building elements and materials were used and understood by peasants as well as royalty. The breadth of application nourished my ideal of a different way of dwelling, with a similar kind of quiet challenge I found in Martin Heidegger's 1953 essay, *Building Dwelling Thinking*,² in which the German philosopher provided what he considered the requisite tools *to dwell*: saving the earth, receiving the sky, awaiting the divinities, initiating our own natures and escorting mortals. His poetical ideals, rendered as active verbs, are as simple, say, as actually practicing Zen Buddhism. Nonetheless the Japanese villas and Heidegger's verbs stood as a sharp contrast for the ever-more muddled, arch and alienating forms of "dwelling" we humans in the Western tradition insist on inhabiting, despite our mounting discontent at the result. That Katsura and Shugakuin, so perfectly fused with their gardens, were also places that inspired personal heroes of mine such as Bruno Taut and Richard

² Martin Heidegger, *Basic Writings: from Being and Time (1927) to The Task of Thinking (1964)* (New York: HarperCollins, 1993).

Neutra, two early Modernist architects, only confirmed their greatness in my eyes. My images of the villas had led me to believe that all the bewitching effects of Japanese architecture were grounded in a rigorous system of modules and finely proportioned geometries. I planned a visit with high expectations of some serious paradigm shifting. However, as I walked through the Shugakuin compound in pounding rain, and through the Katsura a few days later on a sunny morning with my guide, a gentle Japanese architectural student, the interiors confounded me. The villas' respective builders were not following the "rules" I had fallaciously imposed on them. Amidst the "perfection" were sensuality, brilliant color, texture and pattern, and what seemed to me, shockingly, often a wanton disregard for my notions of Japanese modular "discipline." One interior wall at the Katsura, for example, includes a gauzy cloud of gold. Next to that, a big-boned checkerboard pattern of royal blue and white squares marches across the wall, adjacent to an orange swath of textured ochre wall of mud, straw and natural pigments. Was this ornament?

But that misperception of Japanese vernacular architecture as rigid and spartan is typical of wishful thinking driven by my private agenda. Just as we in the West had misperceived the Greek temple, believing it to be rendered in timeless white rather than in the hopelessly garish colors it was actually painted with, or how we misperceived the sepia photographs of the Barcelona Pavilion before its reconstruction drove home the reality of the brilliant oranges, russets and greens of Mies van der Rohe's materials choices, I also imposed my own wishes on these villas with their apparently strict-but-refined modules and dichromatic palette when in fact the reality was something far more complex.

Even the basic organization of the villas surprised me. Japanese houses are organized in plan according to the number of *tatami* mats apportioned to each room. That modular organization, though, did not seem to carry through either in section or elevation, where tectonic and material relationships seem to be more casual, haphazard, even ... *arbitrary*. Walls seemed to change

dimensions and proportions at random. Shelving, alcoves, cabinets, post supports, wall heights and openings were introduced abruptly, although the composition as a whole was, I saw, woven together through the use of the dark wood posts and beams.

It was not until later that I learned that the Katsura's modular system was apparently loosely based on the building proportioning system, *kiwari*, codified by the then newly established Office of Carpentry in 1633, and that it is thought that this system was only partially employed at the Katsura, lending the architecture its idiosyncratic feeling. And as I also learned, Katsura is hardly typical as vernacular architectural prototype but rather analogous to a Mannerist or even Baroque in character in regal willfulness and display.



I found the villas and the visit all emotionally profound in ways hard to articulate. Insofar as many have made a pilgrimage to these royal palaces and reported similar feelings of liberation along with a quiet but exultant feeling, I know my response is not unique. But it did not occur to me that my experience would sustain a deeper reflection about ornament's role and definition.

One tiny, minute observation seemed to embody some of my questions about ornament: a peculiar treatment on many of the villas' supporting posts. Looking more closely, I realized that they displayed the scars left by the wanderings of long-dead termites. The intricately woven, tendril-like termite tracks do, in fact, serve as a *kind* of ornament for the posts in that they add texture and chiaroscuro and an oddly endearing pattern to the post. The tracks are traces of history, part of what

the Japanese treasure as *wabi sabi*; the aestheticized and self-conscious appreciation of the eternal cycle of growth and decay. Was this ornament?

Another example of what one might call ornament can be found in a wide opening to the teahouse. The opening was supported by a standard wood post on one side, fair enough, and a vertically oriented tree limb on the other. The limb stretched out to support the roof, while its curving length, ending on a small stone plinth, framed the opening. Diminutive but strong, the branch integrated the surrounding trees and landscape into the building, a kind of rude hut. The branch/post also served to impart a sense of scale to the small structure. (I would later understand scale to be a vital part of ornament's brief; see Part IV.) The limb *ornaments* the opening and the teahouse, but is it *ornament*?

In fact, both these two features, the termite tracks and the tree limb/post, do satisfy some criteria of ornament far more deeply than what initially was of vital concern to me, a standard question in architecture that was knowing ornament according to whether it was applied *to* the structure (the tracks) or part *of* the structure (the branch/post).

The termite tracks not only add texture and pattern but communicate the bittersweet sensation of time passing as well as the spectrum of the natural world. The wood and its marks connect the affectations of the meditative but resplendent Japanese prince in his "hut" to the humble termite. Aristocracy and insect share the same universe, and gracefully.

The tracks make up only a tiny part of the villa's environment but they contribute to its aesthetic whole and are a protected part of the fabric of cultural narrative. Even if termite tracks do not speak the same blood-and-guts rhetoric of violence, domination, victory, pride, rape, sacrifice, etc., that Western ornament typically celebrates, perhaps they do share another category of ornament: that

which reflects the patterns and workings out of nature. The tracks may have been unintended by humans, but they nonetheless ornament the wood.

The attitude taken to the tracks of the termites, with their statements on where and how we stand in the universe, is an example of introducing “the Other” into the villas’ architecture: that is, in inviting a different voice to the voice of the post of which the tracks are part. It is obviously not part of the architecture *per se*. This voice comes *from* the world (in this case, the natural world), enriches and transforms the work, and throws that transformed voice *out* into the world as a new work for our reception and delight.³

The tree limb/post certainly describes how to dwell with nature. It also creates a sense of scale, and, located at the charged boundary demarking human space from the rest of the natural world (marking boundaries is a function of ornament), aligns and knits together the two. Further, the two different vertical supports flanking the dwelling’s opening—the unhewn limb and the shaped post—call our attention to the tension between human and nonhuman at the same time it suggests a resolution between them.

After visiting these places, I began to question whether my concept of ornament was not quite stunted. Was it decadent and irrelevant as I had long assumed? For that matter, what precisely *is* ornament? Briefly, basically, ornament is one of the central techniques in organizing the visual effects of a building. It is a means to visually apprehend a surface, to add depth and interest, and to help delineate architectural space and make it coherent. It is dependent on architecture and design but can also be, and historically has been, an art form in its own right. It is also a medium for style.

³ For some scholars of ornament, such as Kent Bloomer, teacher, ornamentist, and author of several critically acclaimed works on ornament, bringing in “the other” that transforms architecture is ornament’s most vital business, although there are other criteria ornament must meet to be defined as such, i.e., that it be figurative; therefore, termite tracks in Bloomer’s definition are not ornament.

In addition—and this is crucial—ornament is also a tool that human beings use *to comprehend and engage their environment*.

Still, ornament's resurgence seems hard to believe. The word still carries associations of frivolity and superficiality, at least in the West. And yet the body of literature on ornament is staggering. Were it so inconsequential, why would this word generate so many definitions, so much passionate discourse and discord over so many centuries?

seeking a new definition of ornament

I can think of at least four reasons that justify a re-examination of ornament. The **first** is to recognize the latent power of one of ornament's most ancient roles, that of communicating the voice of a community with shared culture, history and values, a language rather than the signature of one architect. This kind of decentralization of authority is exemplified by the web, but what if some quality of that virtual decentralization be applied to physical structures, so that some buildings at least are neither the statement of an individual nor a developer's predictable solutions for a debased conception of a consumer, but something that engages and champions the hoi polloi? What would it mean for architecture to be able to invite another?

The **second** reason is the by and large unappreciated role of ornament in establishing a sense of scale in both buildings and urban environments. The more I have looked at the use of ornament across many traditions, the more I am persuaded that distributing scale has been one of ornament's primary tasks, and has been so for millennia. And in an increasingly wide spectrum of the architectural community, whether *avant garde* or traditionalist, there is a growing awareness that in order to create livable, sustainable cities and places, we require places to which we feel emotionally

connected, whatever the means. We need *stickiness*. To accomplish that, successful architecture must include transitions in scale.

A **third reason** to re-examine ornament is the growing appreciation of its role in human perception and cognition. Research suggests that human beings have an in-built propensity for ornament, or at least respond to a certain kind of visual ordering and degree of density that architectural ornament provides, and that this preference may have its roots in our genetic ancestry and a specific relationship to a landscape in our past and to nature itself. (This concept will be more fully explored in Part IV.) In any event, the comparison of types of architectural ornament from different times and cultures reveals a universal preference for a surprisingly consistent range of visual richness, albeit in different forms, which apparently aid people in feeling competent, secure, and emotionally balanced. And who among us would refuse a little more of that from whatever quarter, given a technological society in which control and stability is fugitive at best?

The **fourth reason** is the role mathematics and physics play in both illuminating the underlying order in ornament and providing tools to create such order. Some compositional tools include the Golden Section and fractal mathematics, first popularized in architecture some 25 years ago but now again being taken up with greater sophistication, with a small avalanche of new research linking architectural composition to fractals. If the second reason above speaks to the need for scale and the third to ornament's relationship to perception and cognition, fractals and mathematics are the tools that not only provide insights into both natural forms and systems that in turn can fuel the design of ornament, but can also provide the means to better understand why historical ornament endures as well as ornament's relationship to our neural networks and its parallels to nature.

resisting definitions

I found that ornament easily shakes off a nice, clean, crisp definition. I am in good company: other scholars are increasingly impatient with the usual ornament-is-crime as a default setting and *not* being essential to structure and serviceability. “Something is clearly wrong with this,” writes the formidable Islamic art historian, Oleg Grabar, “and with nearly all definitions of ornament found in manuals of art, as they simultaneously imply the secondary nature of ornament and, almost as a result of that, its singular and exclusive attribute of beauty.”⁴ Others believe that ornament *per se* simply doesn’t exist, in the sense that anything and everything can be ornament depending on its application. A number of recent books on ornament have reopened the topic, notably Kent Bloomer’s *The Nature of Ornament*. Bloomer also is one of the nation’s leading makers of ornament: that is, he is a designer devoted to this art form and who maintains continuity with ornament’s distinguished history. His book explicates architectural ornament’s *forte* as an instigator of “a habitat that allows metamorphoses.”⁵ That is, ornament, with its ability to be a medium for other meanings, especially that of communal values, not only adds to but changes the overall gestalt of a building or environment. Bloomer defines ornament very strictly: he would not care to be described as an *ornamentalist* because *ornament* has a very different agenda and pedigree than *ornamental*, whose adjectival status in contemporary language disempowers and trivializes ornament’s peculiar and powerful identity. He is not the first to distinguish roots from their endings. For artist/architect Henry van der Velde, “ornament” revealed the inner workings of form. Writing in 1901, he said, “I wish to replace the old symbolic elements, which have lost their

I am inclined to think that the term “ornament” doesn't mean anything. To me, sand-blasting a steel span, painting a door red or even choosing teak rather than thin strips of bamboo for a floor; or deciding on where to put doors and windows, already comes under the heading of decoration. When L. Mies van der Rohe put the sculpture of a nude woman beside a lake in his pavilion at the Barcelona international exhibition, I believe he was using ornamentation. As a general rule, everything that is not necessary to structure is decoration. This idea was of real interest in the early 20th century, but I think the issue now is to develop the 'necessity' of addition so as to broaden the perception and use of architectonic spaces, all the more since today I doubt whether anyone can give a rational, final, and pure definition of the existence of architecture. When architecture exists, if it exists, it is always a magical apparition. " – Ettore Sottsass, “Necessity of Decoration,” *l'architecture d'aujourd'hui*, March-April 2001, p. 87.

⁴ Oleg Grabar, *The Mediation of Ornament* (Princeton: Princeton University Press, 1992), 25

⁵ Kent Bloomer, *The Nature of Ornament* (New York, London: W.W. Norton, 2000), 27.

effectiveness for us today, with a new, imperishable beauty... in which ornament has no life of its own but depends on the forms and lines of the object itself, from which it receives its proper organic place.”⁶ To add to the nuance, in contrast to ornament and *ornamental*, *ornamentation*, he suggested, was attached to a larger structure.⁷

Other books in this revived canon include *The Order of Ornament*, *The Structure of Style*, by Debra Schafer, *Architectural Ornament: Banishment and Return*, by Brent Brolin and *Ornament, A Modern Perspective*, by James Trilling, who observes that ornament is creeping back into our artistic lives, but in a haphazard, tentative and even furtive way.

All wrestle with this mysterious word because they believe its legacy and role have been misunderstood and feared. Why, Trilling asks, can we listen to any number of new interpretations of Bach’s music through the course of centuries, but not provide comparable new interpretations of ornament? And if ornament continues to go unappreciated, or worse, abandoned, the argument runs, that source of shared and cumulative human knowledge and an important means to visually communicate known and shared values, will dry up. When we no longer understand the pungent flavors ornament imparts to society and the building arts, they assert, we are left with either just prettifying or with satisfying ourselves by making “just another variation in the mainstream of visual expression, which itself has become rather limited to autonomous, self-contained, or complete works of art often meant to be understood or criticized apart from their settings,” as Bloomer writes.

⁶ Henry van der Velde, “Was Ich Will,” 1901.
http://www.bc.edu/bc_org/avp/cas/fnart/symbolist/vandevelde.html. Retrieved October 2007.

⁷ William J.R. Curtis, *Modern Architecture* (London: Phaidon, 1982), 57.

To understand a complex word, dictionaries provide a sound baseline, to distinguish ornament from the constellation of similar words buzzing around it, such as *adornment*, *embellishment*, *decoration* and *design*. Grounded by the 1993 edition of the Shorter Oxford English Dictionary and elaborating some, here are the words:

adornment

Adorn means to add beauty or luster. It is based on the Latin *ornāre*, to furnish, cloak, cover, or deck. (It is not related to *adore*, which comes from the Latin (ad)*orare*, to speak or worship.) It subtly connotes flooding a surface; it also has the sense of something added after the fact, like an angel adorning a Christmas tree.

embellishment

The Old French *embelliss* is the lengthened stem of *embellir* (bel, from the Latin *bellus* or *bella*, for beautiful). “-Em” and “-ish” are known as lengthened stems, attached to either end of the root word. These stems enable the root word to function more like an active verb with a certain faint physicality if not muscularity to it, e.g., to embellish is to heighten some quality, originally its beauty. Indeed, *embellish* also means to “heighten a narrative with elaborate or fictitious additions.” In this arena, *embellish* steps beyond aesthetics when it adds something to a story that may or may not be true, but at least is entertaining.

I might *embellish* the figure of redwood grain by sanding it or raking it with a steel comb to bring out its latent beauty, but I don’t believe I would be *adorning* it because I am bringing the subtleties of the grain *out*, not covering it or topping it off with something else. However, I might say something like, ‘I *adorned* the wood through *embellishing* it’: in other words, I have added beauty to the wood because I embellished it with the comb. Equally, I might embellish a beam by elongating it, as did architect Richard Neutra with his signature “spiderleg,” a beam that ran

beyond the building envelope to attach to a column, an embellishment that “stretched” space horizontally to provide a larger sense of expansiveness, even if the building was small.

decoration

Decoration dates from the mid-16th century: “to beautify, to embellish, grace or honor; provide with adornments, add color or ornament to.” It also refers to the temporary adornments we put up on festive occasions. *Decoration* and “to decorate” has the sense of a later addition, something impermanent.

Decoration may be related to *decorum*, since both decoration and decorum come from the identical Latin stem *décor*. It “may be permissive, yet it has principles. It is guided by certain characteristics that employ the language of ornament. Decoration universally behaves in an amenable manner, responding to the form it serves,” notes Canadian ceramicist and educator Katrina Chaytor.⁸ This observation feels accurate: there is about decoration that is always nicely suitable, of possessing good taste, imbued with propriety. In a word, bland. In contrast, none of that corresponds to ornament’s brief: although it might happily do so, ornament’s job is not to uphold “good taste.”

To go back to our piece of redwood, here “to decorate” is harder to delineate. It might mean several different things, such as attaching some extra feature to it, like a red ribbon, or painting it with images or patterns, or even chiseling it. But because there is some sense of impermanence to

⁸ Katrina Chaytor. “A Re-Position on Decoration or, If a vase sits on a table and nobody is there to see it ... is it decorative?” *Decoration and Ornament: Aspects of Practice Abstracts*, January 26, 2005
Stanford Perrott Theatre, Alberta College of Art & Design.
<http://www.acad.ab.ca/assets/pdf/Happening/Faculty/Jan05DecorationandOrnamentAbstracts.pdf>

decoration, I probably wouldn't choose it to describe my raking action, which effects something perhaps more long-lasting, something that has occurred to the wood itself.

ornament

Ornament comes from the Latin, *ornamentum*, meaning equipment, and from the French word, *ornāre*, to adorn, first recorded in the 15th century. Its first and obsolete meaning in the OED defines it as an adjunct, an accessory, equipment, furniture, attire. This obsolete meaning is sustained in the second part of that definition, “The accessories or furnishings of the Church and its worship, as the altar, sacred vessels, vestments, etc.”

Secondary definitions quickly converge at the muddied, free-for-all, catch-all meaning most of us know, referring to “something used or serving to adorn, beautify, or embellish; a decoration, an embellishment.” Do these definitions sufficiently acquit ornament? I think not. In *The Dictionary of Architecture and Construction*, 1975, ornament is succinctly defined as “every detail of shape, texture and color that is deliberately exploited or added to attract a viewer.” This short definition is pretty good in that it implicitly embraces the emotional appeal of a visual surface. But there is no suggestion in that definition of ornament's other long associations: that ornament confers a sense of scale, or the historical evolution of an arrangement of elements that are distinct from the material underneath them. Nor does it suggest that ornament has broader and deeper roles, such as orienting us in space or furthering specific cultural narratives and memories beyond just “attracting a viewer,” a much narrower role and one which makes ornament sound like an ad campaign, honey for human bees. Nonetheless, this definition does neatly sidestep the old debate as to whether ornament is something added after construction or is integral to it.

If one goes beyond both the OED and the construction dictionaries to etymological dictionaries, however, something far more tantalizing nestles in ornament's roots, a meaning that seems to lie

just below the surface of the word. In *An Etymological Dictionary of the English Language*, the author, Rev. Walter William Skeat—whose very name conjures the earnest Victorian and prolific 19th century linguist he was—noted an entry in a contemporary 1885 French etymology that sought to determine the roots of ornament. The French author, in turn, suggested that ornament originally stemmed from the Latin word *ordinare*, to put into order, to arrange, to prepare, along the lines of *to ordain*, which in turn means to appoint or set things in order, instead of *ornamentum*.⁹

That feels accurate: the idea of being equipped, prepared for something, determining an arrangement, putting into an order: *that* feels like ornament’s primary charge. The two 19th century linguists point to a much richer definition of ornament, darker, more unpredictable and responsible for a larger arena of meaning. Let decoration look after decorum. Bloomer emphasizes that ornament has yet another, vital role, and that is being the bearing of the larger, older values of community and continuity:

“ *From now on I shall call decoration that articulates a communal ethos **ornament** and decoration that which we experience primarily as an aesthetic addition to building **decoration**. So understood decoration is the aesthetic analogue building to ornament.*”¹⁰

To return to the redwood: if I have embellished the wood, grained the wood, in such a way that speaks not only its beautiful grain of the wood but where the pattern is made in such a way that resonates with some larger value, even at this small scale, it is ornament. But perhaps a better description would be that once it is embellished and decorated, if I now place and secure it with other elements I have chosen or created to become part of a larger composition of ordered elements, with the goal of transforming the pieces into an ordered (and I mean controlled or intentional) whole that both communicates to the world and brings something from the world that informs this ordered arrangement, I have implemented ornament. I have unleashed ornament.

⁹ There were four editions of *An Etymological Dictionary* published from 1897 to 1910. He quoted “MM. Breal et A. Bailly from *Dictionnaire étymologique Latin*, Paris, 1995.

¹⁰ Bloomer, o cit., quoting Karsten Harries, (*The Ethical Function of Architecture*, 48), 210.

design

From the Latin *designare*, to designate, a plan or scheme arranged in the mind; a project. The fourth, fifth and sixth definitions in the OED, all first recorded in the mid 17th century, seem particularly pertinent to architecture:

4. A preliminary sketch; a plan or pattern from which a picture, building, machine, etc., may be made. 5. An idea as executed, the combination of elements in the finished work; an artistic device, a pattern. 6. The action of art of planning and creating in accordance with appropriate functional or aesthetic criteria; the selection and arrangement of artistic or functional elements making up a work of art, machine, or other object.

Thus, while *ornament* deals with supplying equipment that adds to aesthetic or ritualistic concerns, and while it alludes to organization, *design* (and architecture too) is more comprehensive, addressing all the components necessary to put a complete project together.

Author Trilling has suggested a way to distinguish ornament from design. Ornament, he says, has its own independent life within the larger life of the building, and is separable from the object it decorates. He proposes a test: “If you want to know whether a particular feature of an object is ornament, try imagining it away,” he writes. “If the object remains structurally intact, and recognizable, and can still perform its function,” he adds, “the feature is decoration and may well be ornament.” If not, according to Trilling, “it is design.”¹¹

This distinction sounds helpful at first, echoing the notion of ornament as something extra. The word “functional,” however, presents a problem. Trilling uses “functional” in a limited, almost mechanistic way that seems to harken back to the stereotypes of ideas anchoring much of early 20th century architecture. More recent architectural theory, revisionist in tenor, shows us that some,

¹¹ James Trilling, *Ornament: A Modern Perspective* (Seattle, London: University of Washington Press, 2003), 21.

Ornament, in other words, is neither a simple inclusion nor a simple exclusion. If anything it plays a role: acting at once as light and shadow, revealing and concealing, including and excluding in one and the same gesture. Ornament's insightful light reveals the "innate" and the "proper" as it casts a blinding shadow over what lies beyond the periphery of the proper: the incompatible ugly other." – Amir H. Ameri in [Writing on, the Margins of Architecture](#), Art History, the International Journal of the Association of Art Historians, London, Vol. 16, No. 2, 1993, pp. 336-348.

if not all, of the early Modernists were much more generous and sophisticated in their definition of “functional” or “functionalism,” while others, such as Hannes Meyer (the radical “functionalist” who succeeded Walter Gropius as director of the Dessau Bauhaus in 1928), do indeed resist such revisionism.¹² Functionality today is a very broad category embracing all things that are useful to people. Pleasure, joy, mystery, power, delight, ecstasy, awe, sensuality, etc. are useful and their expression is just as functional as a “rationalized” kitchens designed by Margarete Schütte-Lihotzky in 1926 (a milestone in domestic architecture and known as the “Frankfurt Kitchen”) or the kitchen designed by Catherine Beecher and Harriet Beecher Stowe in 1869. Both kitchen were canny attempts by women to show compassion in design on behalf of the overburdened homemaker using the scientific management principles of Frederick Taylor.¹³

Perhaps the question is not what ornament *is* or *is not*, but what it *does*.

In other words, it might be useful to think of ornament not in terms of rules and precise definitions, but of *performance*. By describing ornament in action, we can begin to understand it.

a performance-based definition of architectural ornament

1. ornament's raison d'être: to communicate.

Ornament provides part of the means for a building or a landscape to express itself and to make

¹² So narrow was Meyer's definition of “extreme functionalism” that the Communist-inspired director fired world-renowned masters such as Herbert Bayer in graphic design and Marcel Breuer in architecture and design. Gropius then fired Meyer after only a two-year tenure.

¹³ The brilliant housing architect Margarete Schütte-Lihotzky, 1887-1990, was responsible for applying the early 20th century Taylor System of efficiency to kitchens for working class women, devising ingenious ways to cut workloads in small spaces. She worked with Adolf Loos on Viennese housing projects. Arrested by the Gestapo for resisting the Nazis, condemned to death, and sent to a Bavarian prison until the end of the war, Schütte-Lihotzky was nevertheless awarded the Vienna City Prize for Architecture and in 1988 the Austrian Honorary Medal for Science and Art. At 100, she danced her birthday waltz with the mayor of Vienna. Beecher and Stowe published their kitchen, included in a floor plan for their reconception of a house that acknowledged the pivotal role of women, in *American Women's Home: Or, Principles of Domestic Science*.

itself intelligible to human beings. For this reason, the nature of ornament is to be unabashedly attention-seeking. It is exuberant, extroverted, and public-spirited. It expresses the yearning of the human soul and mind to speak, to teach, to tell stories, to explain.

Ornament has always had a streak of impudence and Dionysian imagination to it; the most obvious example is the fanciful animals and devils that populate Romanesque and Gothic cathedrals).

Historically, its work was to relate distilled narratives of the fantastic, the sacred, the profane, the impudence or terror of the daemonic, as well as telling the story of a particular person, victories, or the rhythms and cycles of life through the repetition of abstracted forms. It also locates these attitudes at a specific time.

Even as ornament manifests this imaginative knowing of the unknowable and the Dionysian, it simultaneously enjoys an Apollonian role as ordering this cultural memory. For example, by imagining the unimaginable and even bringing them materially into our midst by anthropomorphizing cosmic qualities, we tamed them a little and transformed dread into artistic vehicles for religion and culture. We also enlarged our universe by enfolding them into our daily lives and communities as corporate possessions, evil and good being both part of the world.

2. architectural ornament knits and weaves scales together

Ornament helps to establish a sense of scale by providing transitions between big and small elements through an arrangement of intermediate gestures. This act of “scaling” makes our environment at once intelligible and meaningful. As architectural theorist and architect Christopher

Alexander sees it, “the recovery of ornament, for example, [is] now seen as a simple continuation of the differentiation of space.”¹⁴

3. ornament contributes to what the late Charles Moore called “a sense of place”

Though comprising “secondary” elements, ornament helps to establish a set of unique visual clues that make a building, a room, an object or space recognizable and memorable. Ornament accomplishes this task through an arrangement of tectonic elements that are unique to a particular building or structure. As John Ruskin wrote in *Stones of Venice*, “The especial thing about true ornament is, that it must be beautiful in its place, and nowhere else...”¹⁵ In this way, ornament confers the quality of specialness on a space or volume, transforming neutral spaces into places that respond to human needs for emotional resonance.

The notion of place has become an important topic in architecture and urban design communities because we are increasingly aware that our built environment has become anonymous, homogenous, even hostile, to creating “place.” Whenever we lose our sense of place, we lose a sense of ourselves in the world. When we are disoriented, we can neither act efficiently nor feel relaxed. Our autonomy to act as free and public beings, as independent citizens of the world, becomes inhibited, and our very ability to be fully human is diminished. The better oriented we are, the more command we have over how we respond to other things happening in the immediate environment. Thus, the use, non-use, or misuse of ornament can actually be subversive, depending on whether we want a person to exercise self-control or to be controlled more easily.

4. architectural ornament facilitates continuity and corporate memory.

¹⁴ Architect Michael Mehaffy writes on Alexander’s work in <http://www.katarxis3.com/Gallery.htm>. Retrieved January 2006.

¹⁵ John Ruskin, *Stones of Venice*, 1851, 236.

It seems contradictory to have just said that ornament helps to establish a unique sense of place, but yet represents continuity in its familiarity. After all, we all can probably find an example of a Classical order on a building within a mile or two from wherever you're reading this; we don't have to visit the Acropolis to partake of this ancient Western cultural legacy. Historically, ornament has built on traditions of craft that changed slowly. A particular group of forms used through the course of centuries lent ornament a strong parallel to spoken language which can be exported and inflected with a dialect. Like language, ornament in history is an articulated system with a particular grammar (a standard method of arranging elements) and vocabulary (the elements themselves), all of which evolve through time.¹⁶ One can see this 'dialect' anywhere, because no building is exactly alike. For example, the Churrigueresque style is a Mexican inflection of the Baroque in Mexico. The style reflects both the delight of exuberant surface decoration in Mesoamerican and Mayan art as well as influences from southern Spain via the Churriguera family, architects and artisans of altars and *retablos*, and before them, the conquering Moors. And certainly the Roman Empire populated whole geographies from Britain to Turkey with temples, baths, stadia, and circuses with Roman architecture and ornament, although it is also the case that the farther the building from Rome, the more localized and thus relatively eccentric, comparatively, the ornament became.

Is an anonymous and collective language is still possible or even desirable in a global culture whose chief characteristic is constant change. Building technology integrated with science allows architectural ornament to be changed drastically, and at a moment's notice. Given our century-old rejection of ornament as an art form, as a shared language, and as a *cultural* force (because we never actually abandoned the act of ornamenting altogether), how is it possible to create new traditions of ornament to facilitate the memory of the body politic if it no longer exists? Perhaps

¹⁶ See Kent Bloomer, *The Nature of Ornament*, Ch. 3, "The Linguistic Nature of Ornament," pp 43-46.

what is possible is micro-traditions of ornament, just as
entertainment and lending targets small, nuanced audiences and
tiny amounts of money.

5. ornament adds something that is necessary

Plato, as historian Ananda K. Coomaraswamy relates, referred to ornament as “equipment,” in the sense that ornament *equips* a space or makes it suitable for a specific purpose.¹⁷ The language of Catholicism, for example, speaks of “ornaments of the church,” such as the lectern and pulpit, as well as “ornaments of the altar,” which referred to all the “tools” for the act of worship, such as the Bible for the daily devotional readings and the implements of the Eucharist. Other “tools” such as crosiers, crosses, chalices, candlesticks, often made of gold or silver and adorned with precious gems, are the “equipment” of worship. The ornaments in the Church also emphasize that we are in a special, sanctified space: *Civitas Dei*, the City of God. And in this case, it is the ornaments that propel the ritual. With its statuary, mirrors, and other profusions of glittering ornament, the splendid opera houses of the 19th century prepared the operagoer for an evening of idealized love, eroticized tragedy, and the opportunity, above all, to engage in a very public procession, to see and be seen, a chance for the middle class to sparkle to themselves. They themselves become temporal ornament, animating the opera house and giving it life.

We must not think of ornament as something added to an object which might have been ugly without it. The beauty of anything unadorned is not increased by ornament but made more effective by it. Ornament is characterization; ornaments are attributes. We are often told, and not quite incorrectly, that primitive ornament had a magical value; it would be truer to say a metaphysical value, since it is generally by means of what we now call its decoration that a thing is ritually transformed and made to function spiritually as well as physically. The use of solar symbols in harness, for example, makes the steed the Sun in a likeness; solar patterns are appropriate to buttons because the Sun himself is the primordial fastening to which all things are attached by the thread of the Spirit; the egg and dart pattern was originally what it still is in India, a lotus petal molding symbolic of a solid foundation. It is only when the symbolic values of ornament have been lost, that decoration becomes a sophistry, irresponsible to the content of the work.
Ananda K. Coomaraswamy, “Why Exhibit Works of Art?,” *Studies in Comparative Religion*, Vol. 5, No. 3 (Summer 1971), p. 6.

¹⁷ Ananda K. Coomaraswamy, “Why Exhibit Works of Art?,” *Studies in Comparative Religion*, Vol. 5, No. 3 (Summer 1971), 6

6. *architectural ornament mediates boundaries*

The act of mediating two materials or structural elements is one of ornament's most familiar roles, in that much of the art of architectural design consists of resolving such transitions. Those boundaries may be metaphysical, such as the separation between the secular and the divine, or physical, such as the edge where two materials meet. In some cases, architectural ornament *reinforces* and strengthens boundary lines, to better articulate the transition from one material to another. In other cases, ornament *dissolves* the divisions between materials in order to disguise a transition. Those requisite transitions, in turn, provide opportunities for ornament to occur.¹⁸ It can, for example, highlight the transition of loads, such as an ornamented corbel that transfers the load from a horizontal to a vertical plane. However, it must also be said that ornament need not obey structural logic, but can follow “a different set of rules” entirely¹⁹ that address aesthetics.

Historian Grabar describes ornament by using the metaphor of Love, which he says is a spirit that hovers somewhere between wisdom and ignorance. This spirit is neither the lover nor the beloved, neither the possessor nor the possessed, but is rather of some other, “intermediate” nature. The word used by Plato for this ‘spirit’ (at the boundary, embodying frisson), Grabar notes, is *demon* (*daimon*)²⁰ and relates ornament to the act of sex. He notes that Sigmund Freud suggested that the repetitive nature of ornament gives the appearance of some demonic force, the id, at work.²¹

¹⁸ See Tim Anstey's essay, *Ornament and Tolerance*, Royal Institute of Technology (Kungliga Tekniska Högskolan), KTH, written for his fifth year architectural students: http://216.239.57.104/search?q=cache:hEYCT0MEoxgJ:www.arkitekturskolan.se/pdf/5_yta_Anstey.pdf+%22tim+anstey%22&hl=en&start=2&lr=lang_en

¹⁹ Edward R. Ford, *Details of Modern Architecture* (Boston: Massachusetts Institute of Technology, 1990), 11.

²⁰ Grabar, 45.

²¹ *Ibid.*

7. ornament assists us to secure our environment

...through our emotional, cognitive and sensory systems so that we can “exist as the form of being that one is motivated to be, and to engage in the kinds of symbolizing functions and actions necessary for a purpose.”²² Part IV addresses this aspect of ornament, in which successful ornament harnesses latent, present, opportunities in our cognitive systems. Such ornament extends the radius of what it can mean to be fully human ... and as I said earlier, I know this claim sounds extreme.

8. ornament transforms

The late 16th/early 17th century philosopher, Giambattista Vico discussed the poetic power of the image of metamorphosis and monsters so common in the architectural ornament of his time. In *The New Science*, 1725, Vico identified four traditional categories of rhetoric, of which one pertained to monsters and the unnatural metamorphoses of men into monsters, and vice versa. According to Vico, monsters and monstrous transformations are necessary for poetry, because these images allow people to concretize certain feelings or impulses into creatures that can be seen. These monsters of poetry and painting are intermediaries that connect the world of poetic or philosophical truth (*verum*) to actuality or fact (*factum*); that is, truth provides the “content” of monsters, because people contain monstrous emotions of lust, avarice, and the like, while the physical building provides the “form,” by lending believable bodily existence to these abstract, formless monsters.²³

²² Ralph D. Ellis, “The Dance Form of the Eyes,” *Journal of Consciousness Studies*, 6, No. 6-7, 1999, 172.

²³ See also *Monsters of Architecture*, Marco Frascari (Lanham, MD: Rowman and Littlefield, 1991), and Bloomer, oo. cit.

how ornament accomplishes its tasks

Architectural ornament typically performs its work through a hierarchical distribution of shapes and patterns, line work arranged in rhythmic, repetitive ways, textures and colors dependent on geometry and proportion to create motifs and patterns.

In order to “speak,” ornament has always required a physical substrate, a backdrop or a medium which in turn will be placed within some larger context. Historically shapes and forms have been typically applied onto, or integrated into, workable mediums such as plastic, wood, metal, glass, stone or plaster. In this context ornament is a dependent, parasitical art form, but not lower or secondary. It has no independent life without its backdrop or medium. In a very important sense, therefore, *nothing can be ornament* unless it has been *placed* somewhere.

Given this essential support, however, ornament is off and running, liberated to broadcast its symbols and stories, which may or may not have anything to do with the substrate supporting the ornament.

While most ornament is made out of permanent materials, a building can be ornamented by something as ephemeral as light, as artist James Turrell’s memorable installations attest. Though transitory, an arrangement of patterns heightens the tectonic experience of viewers while communicating the heretofore unknown surprising properties of a building, sculpture, or site.

Other exciting 21st technologies and materials are extending the historical reach of ornament’s mediums and methods with “dynamic ornament,” a concept coined by a group of researchers and architects based at the Ecole Polytechnique Fédérale de Lausanne, Switzerland. This experimental ornament, mounted on panels of copper-clad printed circuit boards and thermochromic ink, responds slowly and organically to subtle climactic changes in the environment in order to

articulate spatial differences among rooms,²⁴ much in the spirit of turn-of-the-century Viennese architect Adolf Loos's concept of "Raumplan," in which room heights and materials signaled spatial hierarchies, functions, and importance.

In most, if not all, pre-modern cultures, the concept of "ornament" probably didn't exist. "What we consider 'ornament,' that is to say something added on, was, to the local people, integral to the artifact: it was needed to make it more effective and powerful. This was true even in pre-modern Europe. For instance, the cannon used during the Renaissance period was often molded with a lion's head. To us, the lion's head is ornament. To Renaissance military officers, it was integral to the function of the weapon: in those days, the roar of the cannon mattered as much, if not more, than the physical damage it was able to inflict. - Yi-Fu Tuan, letter to the author, 18 October 2004.

Finally, architectural ornament also abstracts and "conventionalizes" an idea, exaggerating some elements while suppressing or flattening others so that it may be reproduced.

the three realms of ornament

As I noted in the introduction, certain lines of discussion and research among environmental psychologists, visual cognitive scientists, biologists, mathematicians, designers and theorists are beginning to converge. This discussion has at least three points of focus.

The first is in **arts and culture**, where ornament is an art form, a record of history and a medium for symbols and imagination. Here, the human being is the agent in an environment, the actor who dictates what stories to tell, how it should appear, and which medium of ornament suits the tale.

Ornament is a process of *election*.

²⁴ Mark Meagher, David van der Maas, Christian Abegg and Jeffrey Huang, (2009), "Dynamic ornament: Climatically responsive surfaces in architectural design" in *Proceedings of the 13th International CAAD Futures 09 Conference*. Media and Design Laboratory, Ecole Polytechnique Fédérale de Lausanne. Html version of the file http://www.boldtoad.com/files/acsa_paper_images.pdf. Retrieved January 2010.

The second, also quite familiar, is the world of **construction**, where ornament is needed to build a bridge between two or more materials. Materials must be aligned and addressed in ways that permit the communication of “stories” to take place.



The third and newest realm of understanding is that of **environmental psychology**. Here the term *ornament* is not used as a tool for telling stories. Rather, it describes the specific natural properties in our environment working with our own internal neural systems that together facilitate emotional and psychological responses.



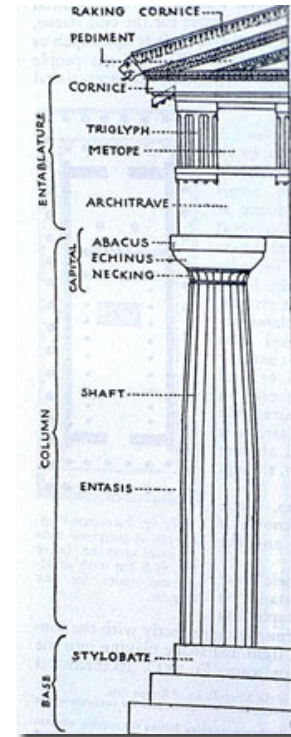
Informed by evolutionary biology, ornament speaks to the primordial Paleolithic being within us who grew up in a particular landscape whose properties affected our cognitive, emotional, and visual systems. In a very real sense, we are still scanning an East African horizon for clues to survival, shielding her or his eyes from the sun, assessing the length of shadows, examining the loosely grouped copses of acacia trees, their branches and leaves, for their possibilities for shelter, water, food, other humans (potential allies, mating partners or enemies), and looking for bodies of water. Our cognitive tools for “ornament” were developed in the presence of that landscape, when our minds created neural pathways for our survival instincts based on what we saw.



Above, medieval gargoyles, Longwall, Oxford. Below, the Very Reverend J. Wyn Evans, Bishop of St. David's Cathedral, Wales. Image ©Jo Dickson under the Creative Commons Attribution-Share Alike 2.0 Generic License.

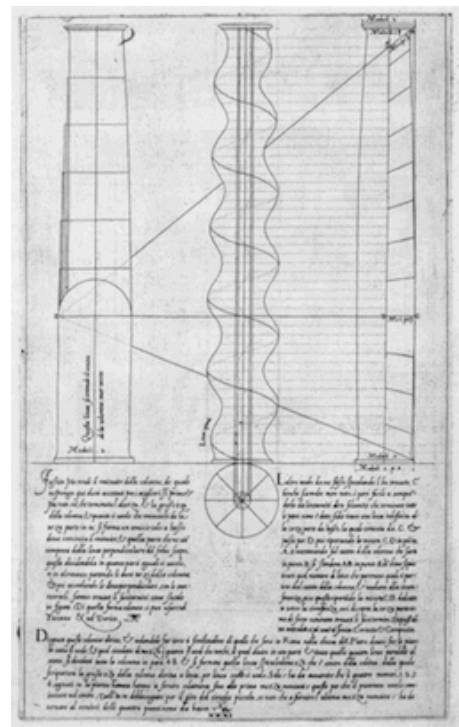
Ornament in this arena can be considered as a vehicle for a kind of “environmental reconciliation.”

The misuse or absence of ornament in all our various land and cityscapes deprives us from using a portion of our *genetic* memory and sensory potential. This deprivation disconnects us not only from our surroundings as a physical field but from some of our natural cognitive faculties as well. In this realm of ornament, it is important to recall that despite our web worlds and virtual lives, we exist and breathe as real, physical bodies in space and time. As historian Coomaraswamy noted, insofar as our environment, both natural and artificial, is still significant to us, we are still “primitive mentalities.” In other words, we do not escape the implications of the physical and the need for ornament.



the doric order in the three realms of ornament

As an example of how we could understand an architectural element, or ornament itself, in these three disparate realms, consider the Doric Order, the earliest of the principal Classical (Western) Orders and one of Western architecture’s most enduring symbols of the human being.



The Doric Order is characterized by a fluted column that supports a capital comprising a rounded echinus that cushions the squared-off abacus above it. Collectively, this column, along with the others in a row, supports an entablature consisting of an architrave and frieze with alternating metopes (blank or decorated

surfaces), and triglyphs (vertically grooved panels). Under each triglyph are peg-like *guttae* which appear as if they were hammered in from below to stabilize the post-and-beam, or "trabeated," construction. The entire entablature in turn supports the gabled roof of the tympanum, a shallow triangle typically filled with groups of figures and carvings.

In the realm of **arts and culture**, the order traces its roots back in legend to the Greek conqueror Dorus; to violence and war. The word *Dorian* carries multiple associations and meanings, including racial conquest and female genitalia, according to historian George Hersey.²⁵ He notes that "battle itself was often perceived, in art and literature, as arrays of powerfully male figures standing like close-set columns," which suggests strong links between the sensuality of the male body, art, and the architecture of the temple itself.²⁶ Another interpretation suggest that the fluting on the columns may represent the folds of the dresses of Greek maidens, not gathered spears or groups of warriors; in any case, all interpretations include a profound resonance between the body, movement, strength, fecundity, grace, stone. The 1st century Roman writer Vitruvius confirms the notion that the human body was the measure to determine both the height and proportion of the column. "When they wished to place the columns in that temple, not having their proportions, and seeking by what method they could make them fit to bear weight, and in their appearance to have an approved grace, they measured a man's footstep and applied it to his height. Finding that the foot was the sixth part of the height in a man, they applied this proportion to the column ... So the Doric column began to furnish the proportion of a man's body, its strength and grace."²⁷

Whether fact or myth, the order exemplifies architectural rhetoric in communicating stories long before the printing press was invented.

²⁵ See George Hersey's *The Lost Meaning of Classical Architecture* (Boston: MIT Press, 1988).

²⁶ George Hersey, *The Lost Meaning of Classical Architecture*, (Boston: Massachusetts Institute of Technology, 1988), 54.

²⁷ *Ibid.*, 57.

The Doric column also manifested the Greek synthesis of geometry “as a highly reductive philosophy ... that expressed the complex systems of the cosmos” into abstracted forms that simplified nature’s complexities.²⁸ Thus, to use the rectangle and cube to devise the Greek temple was a ‘natural’ act, for these are the forms the mind conceives.”²⁹ Since our minds are natural, in other words, those forms are natural as well.

Thus, both the individual, the group of victorious warriors, and an attitude toward the cosmos are embodied in stone in the façade of the Acropolis, which was, of course, the pinnacle of Classical Athens, that Greek city state whose architecture came to embody not just physical perfection but the idea of democracy itself as heroic, communal, and resilient. On one level, the single unit of capital and column conveys the head and the torso (the Doric Order has no base, and thus no “feet”) of the individual; on another the column is one among many other identical columns, together performing the work of carrying the load of the entablature and roof, one among many required for a unified city state as well.

The Greek ability to render both the body and the body politic (the *polis*, the gathered *civitas*) in stone is paralleled only by the uncanny ability to employ a truly amazing repertoire of tricks in visual perception. (The Parthenon, the crown of the Acropolis, is renowned for “not having a straight line,” a phrase that refers to all the tools the Greeks employed to subtly tweak perception and, coincidentally or intentionally, our emotional response.) Along the length of the fluted column, for example, the width is greatest in the middle where it swells before tapering at the top

²⁸ Andrew Scott Maleck, “Developing a Fractal Architecture,” M. Arch. Thesis, Miami University, Oxford, Ohio, 1999, 7.

²⁹ Op cit.. In the mid-20th century, architects such as Le Corbusier and Richard Neutra conceived of forms that were natural in a very Greek way. For Le Corbusier, these primary forms represented beautiful examples of the clarity in Nature. For Neutra, Euclidean geometry was an “empty, impoverished thing” when it came to describing the complexity of nature.

and at the bottom. The column is not straight when measured but *looks* straight from a distance, where this strategy is effectively experienced. This change in diameter over a column's length is called *entasis*. *Entasis* helps the entire column façade to look and feel alive, like an alert athlete in repose, able to breathe calmly, even helping one's fellows to support the entablature above. Thus, *entasis* the tool aids to create a façade that crackles with the highly disciplined vitality and virility of the ideal male human body.

In his essay, *What is Ornament and What is Not*, historian Sir John Summerson cites the Roman Doric column to argue that entasis, entablature, echinus and abacus are *not* ornament because they lead to “a sequence made obligatory by convention, just as the arrangement of words in a sentence is made obligatory by convention.” That is, they are necessary components of the language of the Doric Order, which is architecture. Entasis is part of the Order, and while strictly “uneconomical,” is still architecture, not ornament. Super-added enrichments, such as the pattern of “egg and dart on the echinus” *are* extra and are ornament, he suggests, just as composers add trill notes to a point in a written melody. (However, Summerson also calls the fluting on the Doric column “a voluntary extra,” and therefore ornament, whereas I might call it embellishment.) Taking on the far more elaborate capital of the Corinthian order, Summerson reasons that because the ornate capital distinguishes the Order and contributes to the order's language, it is “uneconomic” but it is architecture and not ornament.

He applies the same reasoning to Gothic architecture, which he admits is far “looser” as a language, and provides examples of elements that communicate “linguistically,” such as vertical shafts attached to the massive piers of Amiens Cathedral, where ribbed shafts appear to support the vaulting above. “Everybody knows that if the shafts were knocked away the vault would still be there,” he writes. “But the intention to support is present, and it would certainly go very much

against the grain to describe those shafts as ornament; they are as much a linguistic part of the building as are the columns in a subsidiary order in a classical building.”

Of course, these examples of an architectural language are easy to consider because their identities are clear, well-documented, and have been used for virtually every building type for centuries.

They are beloved, historically grounded and reliable. But if we, who do not have a collective culture or ethos, look to Summerson for how to think about contemporary architecture and ornament, well, sorry. He concludes his lovely essay essentially saying that the development of new languages of ornament is going to be a messy business because it deals with a difficult concept; the *necessity* of ornament, *despite* its lack of economy, *despite* its birth in “wantonness” :

the resolute suppression of ornament in the early phases of the Modern Movement has had the effect of drawing architectural language into bizarre and esoteric extremes of sculptural contortion which, because they are so easily misunderstood, are now being questioned. New approaches to the subject of architectural ornament are no doubt on the way. They are likely to take two opposite directions. One will be outward towards a study of the meaning of ornament—iconographic, metaphorical, or purely psychological. The other will be inward, a re-examination of how architecture has been and may be a medium of emotional communication. Of the two directions the second is the more difficult and profound since it leads necessarily to those linguistic issues too hard to identify—issues whose beginnings are in the uneconomic waste and wantonness of architectural creation.³⁰

In the realm of **construction**, consummate craftsmanship was necessary to achieve all the games of perception the Doric temple embodied. Whether the fluting on a Classical column is deemed ornament, architecture, or embellishment, in any case the fluting serves a practical purpose: Greek temple columns were not monolithic tubes of stone. Rather, they were built-up pieces, or joins, of rounded marble or limestone threaded with an iron rod at the center. Fluting, the last step in the making of the column, acts the way a door frame does in suppressing the jarring impact of two materials coming together imperfectly, here diminishing the visual impact of the horizontal joints to favor the more powerful vertical trajectory of an image of a single, well-crafted, unified column.

³⁰ John Summerson, *What is Ornament and What is Not*, VIA, 3:5–9, 1977.

In addition to addressing tolerances, gaps and joints, construction can also serve memory. Citing another example from the Doric Order, the triglyphs are typically interpreted as vestigial coverings for the ends of timber beams in wood temples, thought to be the antecedent of stone temples. Wooden beam ends are susceptible to the effects of air and moisture and when exposed need to be protected. John Hersey, author of *The Lost Meaning of Classical Architecture*, points out a far more symbolic role for the triglyph. The word is connected to Greek meanings for thigh bones and to sacrifice; even the guttae placed below the triglyphs might have been seen by ancient Greeks as drops of fat dripping from the dismembered thigh of a sacrificial animal.

In the realm of **environmental psychology**, the Doric Order easily meets the threshold for effective ornament. With regard to survival skills and the pleasurable emotions that arise from feelings of security, the columns supporting the roof provide us with an opportunity for immediate physical protection. The columns are spaced far enough apart so that we can see around them, while the elevated platform permits us to gauge our surroundings near and distant should we need to protect ourselves in the near future. Since humans are already genetically predisposed to respond to changing light and shadow, with its crisp contrasts the Doric column's fluting makes it easier to quickly apprehend the shape, mass, height and diameter of the column so we can understand it itself is not a threat. The fluting also provides scale, rhythm, and, as built, color, within the larger scale and rhythms of the columns within the larger façade, further helping to orient us. Our brain "mends" the joints so they virtually disappear, much as we can endow the image of a fragmented object with a smooth border, just as the mason-builder intended.

These features work together so that we might "apprehend" the column easily, meaning that we *capture* it, in a sense. Because its design allows the brain to acquit these tasks, the fluting, the column, and columns en masse, together create a local visual environment that our brain has

determined to be threat-free and even benevolent. It no longer demands a great deal of cognitive labor to understand either the column or its place in its larger environment. (“Understanding” here pertains to understanding the column purely as an element in the environment, not its role in history.) Thus freed, our brains can concentrate on other activities requiring more significant cognitive work. In effect the brain says, “You have just found out what this thing is, and you know it is unlikely to hurt you, and besides, you’ve seen it plenty of times before. Go and concentrate on things that require more mental effort and that are more valuable for survival.”

The Doric Order also contains all the transitions in scale that we expect from ornamented architecture that “succeeds” by responding to all the criteria we have defined for ornament. The entire façade sets up a series of alternating animated surfaces (triglyphs, the frieze, the figured tympanum and the columns) with plain, visually restful surfaces (the metopes, the architrave and the stylobate, which is the base of the temple comprising three steps).

The impact of the Doric Order on the ancient parts of our brain, both in environmental and in cultural terms, converges in the empathy principle. That principle holds that an aesthetic experience is not imposed on our minds from without, as if we were purely passive *tabulae rasa*, but involves active involvement from our brains. “Empathy” comes from the Greek, *empathia*, “feeling into.” The empathy principle arose out of the 19th century belief that art and the creation of form should be undertaken more quantitatively, and was advocated by early perceptual and experimental psychologists and scientists.^{31,32}

³¹ Otto Wagner, *Modern Architecture* (Santa Monica: The Getty Center for the History of Art and the Humanities, 1988), 22-3. Introduction and translation by Harry Francis Mallgrave.

³² Figures in early experimental psychology such as Theodore Fechner, Wilhelm Wundt and Konrad Fiedler.

In 1886, one of the most famous doctoral dissertations in architectural history, in his exploration of the empathy principle Heinrich Wölfflin posed the question, “How is it possible that architectural forms are able to express spirituality and feeling?”³³ Wölfflin argued that “the aim of architecture was to express strong states of feeling arising through the opposition between the material and its “form-strength” (*Formkraft*). He defined ornament in architecture as “the expression of excessive form-strength,” which I interpret as concentrated areas on a building (an entablature, a metope, a corbel) that express an idea more emphatically, where the “form-strength” gathers itself up and effervesces meaning. Other early theorists sought to define aesthetics, empathy and that most elusive of ideas, beauty, in quantitative terms. The 19th century German theorist Adolf Göller linked beauty and memory to perception and vision. He located beauty

*more fundamentally in the abstract play of lines, light and shade. This visual charm has both physiological and psychological explanations. From our past memory, we bring to the perception of form certain residues or “memory images,” that lead us to find pleasure in particular proportions or combinations of form.*³⁴

This leads us directly to contemporary research in environmental psychology and evolutionary biology, as Göller was indeed on the right track in his view of perception and memory. Human beings work with both inherited proclivities and learned responses to their environment.

“Residues,” or memory images, rely on emotional connections that are, in turn, further enhanced by the qualities of ornament in our environment.

In 1897, one of the empathy principle’s early proponents, Theodor Lipps, described his response to the Doric columns in empathetic terms:

*The vigorous curves and spring [of the column] afford me joy by reminding me of those qualities in myself and of the pleasure I derive from seeing them in another. I sympathize with the column’s manner of hiding itself and attribute to it qualities of life because I recognize in it proportions and other relations agreeable to me.*³⁵

³³ Harry Francis Mallgrave, *Modern architectural theory: a historical survey, 1673-1968* (Cambridge: Cambridge University Press, 2005), 199.

³⁴ CITATION DISAPPEARED.

³⁵ James Averill, Thomas More, and Petra Stanat, “Aesthetics and the Environment,” *Review of General Psychology*, June 1998, Vol. 2, No. 2, 153-174. Lipps was quoted in *Spector*, 1973, 123.

The Greeks' tools of manipulating perception enrich the quality of empathy. Little wonder, then, that some visitors to Greek temples experience emotion so intense that it feels like a kind of sexual ecstasy. In a conversation with an architect well-known for his meticulous attention to Classical details (telling me that I shouldn't write this book because I didn't "believe" in ornament), he volunteered that he had "rent his clothing" while wandering around alone in the museum of the Acropolis, so primal his reaction.

We need to unpack the strangeness of ornament a little more before we begin to construct a richer way of understanding it. The next "layer," or chapter, deals with how earlier theorists, architects, and ornamenters have considered ornament. The third addresses the history of the long, often acrimonious debate over ornament from Vitruvius through the post-Modernists, while the fourth explains our primal basis for ornament in evolutionary biology and environmental psychology and how we might apply that in design.

It is there I argue one essential point gleaned from this strange journey: the tree – and specifically the acacia tree, probably in Sudan – is the first, the ultimate, the root, of all ornament.

