5-11-1994

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Gregory S. Palermo
Iowa State University, gpalermo@iastate.edu

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Abstract
This paper considers brick -- (extra)ordinary brick -- and its metaphysics. How can a brick, a material object, have a metaphysics? The singular 'brick' is arguably the most ubiquitous of construction materials, modest in its earth and fire roots, fitted to the hand, a utilitarian artifact habitually assembled into a myriad of constructions. Yet embedded, presupposed, potentially, within each brick are: a technological society with labor organization; conceptions of fabricating structure, skin, and illusion; temporality; and the creation of place, transparency, and motion. Louis I. Kahn, when discussing architectural materials, specifically brick and arches, speaks in Platonic terms of material construction giving presence to the pre-existent forms of brick assemblies and arches. He says this is "the order of brick." This paper, though it shares the poetic notion of brick, postulates an Aristotelian model. It is through the human practices of making and construction, the relational aspects of brick bonded to brick, and the purposeful intents of those assemblies that there arises a metaphysics of brick. To build in brick is not to create inert objects, but to build existential presences. An analogy to the elemental letters of alphabets and their use in language representation and a brick-built garden wall are used to examine the metaphysical nature of brick.

Keywords
brick construction, architectural genius loci, material culture, architectural education, architectural theory

Disciplines
Architectural History and Criticism | Architecture | Construction Engineering | Historic Preservation and Conservation | Landscape Architecture

Comments
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Meditations on the Metaphysics of the (Extra)Ordinary Brick

GREGORY PALERMO, FAIA
Iowa State University

Abstract

This paper considers brick -- (extra)ordinary brick -- and its metaphysics. How can a brick, a material object, have a metaphysics? The singular 'brick' is arguably the most ubiquitous of construction materials, modest in its earth and fire roots, fitted to the hand, a utilitarian artifact habitually assembled into a myriad of constructions. Yet embedded, presupposed, potentially, within each brick are: a technological society with labor organization; conceptions of fabricating structure, skin, and illusion; temporality; and the creation of place, transparency, and motion.

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Prologue

"Few who daily read the printed word ever consider how those component letters came to be. Yet every single letter of our alphabet has been shaped by the constant effort to render its image suitable in purpose and beautiful in form. Rarely has there been an activity with consequences so manifold and far-reaching as those of the formation of a printing type. Those engaged in this work have thus incurred a great responsibility; they take satisfaction in knowing that their work may represent one of the most noble and progressive of all human activities." For: "If the letters daily produced by the millions in the printing presses were to be used for only one good purpose (e.g., "to lessen hatred and mistrust among peoples; to rout a calumny with truth") every day, then ... all the pains we have taken with their creation will have been rewarded," (Zapf 1970).

Letters are the elements of alphabets. The general forms of the alphabet and the particular design
and physical properties of letters -- shape, proportion, line and curve, serifs -- can be diagrammed and described. However, these properties are only marginal to a letter’s full being -- it being the case that there are many different alphabets and letters. So physical, objective presence is not the essence of a letter. Alphabets and their letters, individually or arranged into the words and sentences, are the agreed upon representation of a given society’s language. The ideas, facts, and concepts which are permanently recorded in letters and alphabets in turn inform future culture.

The individual letter -- beyond its physical property as an entity -- as an invention of a culture that uses symbols to represent sounds (phonics), that uses written signs (letters and words), and their relational structure (grammar), to convey meaning and civilization has metaphysical properties. Here we explore the analogous metaphysics of another elemental artifact which in its being conveys much beyond its physical presence -- the (extra)ordinary brick.

Metaphysical Brick

This paper considers brick -- (extra)ordinary brick -- and its metaphysics (Note 1). How can a brick, a material object, have a metaphysics? The singular ‘brick’ is arguably the most ubiquitous of construction materials, modest in its earth and fire roots, fitted to the hand, a utilitarian artifact habitually assembled into a myriad of constructions. Yet embedded, presupposed, potentially, within each brick are: a technological society, ancient or contemporary (which has the capacity to create bricks); an organization of labor (for both production and assembly of bricks); conceptions of fabricating structure (bearing walls), skin (veneer walls), and illusion (5/8 inch tile set ‘facing’); a foundational connection to the earth, and a boundary condition with the sky; the weathering of nature (temporality); the creation of place and otherness (the realms ‘of’ and ‘beyond’ a brick delineated place); of seeing, scene and being seen (transparency); and passage through enclosure (motion). Thus, to build in brick is not to use a dead object, but to incorporate an object of existential presence into the creation of structures that also have existential properties.

Louis I. Kahn, when discussing materials said: “You say to a brick, ‘What do you want to be?’ Brick says to you ‘I like an arch,’”(Lobell 1979). In another location he says “it is within the order of brick that the beam of brick is an arch,”(Wurman 1986). He speaks of material construction giving presence to form. Kahn was speaking Platonically of the condition of arches and brick assemblies: either that the arch exists as an idealized pre-existing brick form to be realized in construction, or the converse, that there is a pre-existent form of brick, its being, that demands construction into arches (Note 2). Kahn proposes that this is “the order of brick.” This paper, though it shares the poetic notion of brick, postulates an Aristotelian model -- that it is in human practices of making and construction, the relational aspects of brick bonded to brick, and the purposeful intents of those assemblies that there arises a metaphysics of brick (Note 3). (Note 4).

To design and build in brick, then, is not to assemble inert opaque objects, but to make a living thing. It is in these terms that examining the metaphysical properties of brick takes on a degree of importance. It informs our vision of environmental design and constructional possibilities, giving inhabitable physical form to culture.

Consider the (Extra)Ordinary Brick

A few years ago while I was designing a college communication center using brick as the primary material, a colleague asked me how I was doing. I replied that I was enjoyably in the midst of this project, but I was struggling with the brick wall, or the brick in the wall, or the wall of brick. He said, “I know exactly what you mean, it is a very difficult design question, the use of brick.”

We were two designers speaking of a construction material with an ancient heritage -- but not one that had by any means been exhausted. We understood the complexity because of the extraordinariness of brick -- less so its physicality than the implications of its history, uses, and potential.

Why apply this hyper-attention to brick -- by calling it (extra)ordinary? After all, the modern brick of Western society stands in a line of one of the
most ancient of construction materials, and it seems
to exist virtually everywhere that we humans build
or have built. It is one of those fundamental arti-
facts, whether baked by the sun, or reinforced with
reeds, or made of fired clay and shale, or extruded in
today’s modern manufactures. In modern times,
usually a brick fits in our hands, not varying too sub-
stantially from 4x3x8”. At the same time it seems to
vary almost infinitely in exact size, fire, color, den-
sity, porosity, finish, and bonding pattern. It can
usually be handled and laid by one person, and it is
a primary element in much larger constructions that
give form to our habitat. But, precisely because of
its potent utility, it can be underestimated. Its ubiq-
uitous utility conceals its metaphysical nature.

We are in medias res, several thousand years
into the history of bricks and constructing things of
them. You might say, we cannot know the world
without knowing at least part of it in brick, and we
cannot know brick without knowing it as it is in the
world. As a result, brick has meaning beyond its lit-
eral objectivity. Through our knowledge of brick in
these contexts, brick acquires an (extra)ordinary
character. In contrast to Louis Kahn’s Platonic posi-
tion that the ideal form ‘brick’ pre-exists, and is real-
ized in the material artifact brick, it is the position
here that the metaphysics of brick stems from the
Aristotelian conception of practices and techné, the
applied art and skills of making things -- individual
bricks and larger fabrications of which they are an
element -- which give brick not only its objective
material reality but also its metaphysical reality.

Brick and Technological Society

Brick does not exist apart from societies of a certain
technological order. Bricks are not found in nature.
We may find rocks and tree limbs and reeds which
we can heap together for shelter (the shelter being
artifactual) (Nuttgens 1983), but bricks are an inten-
tional elemental artifact that demand first their own
making as part of a larger conception of building.
Brick requires a society that can assemble clay and
shale, create formwork, and fire the molded brick.
Moreover, brick has no potential without a society
possessing the capacity to assemble bricks into con-
structions; brick does not come into being except in
such a society. While any one of us may not know
exactly how a brick comes into being, what gives
each type of brick its special character, or its exact
chemical make-up, or its physical properties, we do
know that its creation and incorporation into con-
struction arises in human intention and societal or-
ganization. Though we may no longer actively think
about its special quality, the first order of a meta-
physics when confronting the object brick is this em-
bedment of a technological society within it, not ad-
ditive to it.

Brick from Bearing Structure to Illusion

While the metaphysics of technological society is
embedded within them, it is through their use as an
element assembled into larger constructions that
bricks obtain other metaphysical dimensions. In the
‘Prologue’ I made reference to three orders of con-
struction: structure, skin and illusion. As with the
properties of individual bricks, we can know the es-
sence of constructions without knowing their engi-
neering particularities and calculations, or the his-
torically accurate designation of their particular
styles. We come to know of them through experi-
ence.

Bearing walls, piers, vaulting, and arches are
examples of the structural forms of brick. Uses of
brick as structure were first experimentally worked
out, and we now pre-calculate them. Nonetheless,
there is a physical presence and depth, a weight to
brick masonry load bearing structures. This weight-
lessness is visible in the work. Think of Roman brick,
now revealed, originally used as backing for plaster
finishes. Or, consider the three little pigs and the
wolf. It is the weight and strength of brick so assem-
bled, its literal and mythic depth, that gives meaning
to the fable: it is the houses of straw and wood that
fail, and brick that withstands the threat of danger
from the wolf.

Laid up in thin wythes, backed by and/or pro-
tecting some other supporting material, brick can
become a veneer, or a skin. As a veneer, Its thin-
ness is sometimes hidden, and sometimes revealed
through detailing. As with other skins, a veneer pre-
sents a unique character. When fired hard and dense
and bonded with cement mortar, it sheds the ele-
ments and at the same time breathes and absorbs
them.
Today, we make even thinner constructions in brick by firing 5/8 inch thick brick faces and fastening them to a backing structure. In this use, the tile-set brick face is an allusion to and illusion of the noble structural material that bears weight and is weighty, that shelters, and that enwraps. We may justify this by resorting to our impressions of brick - - that it seems strong, or warm, or rich in texture and color. These qualities are objectified and we seek their presence through the face of brick. This is a brief sketch of the transformation of brick from being itself, to being an illusion of itself. Brick becomes illusion.

In these uses, briefly sketched, brick is not materially transformed into something else. Brick physically remains brick, yet the ‘being’ of brick is changed. One view of this transformation is that contemporary economies and production are increasingly faux -- they are cheap tricks, or fashion. But, because we know of these artifices, because we know the history of brick, brick is vested with and possesses a metaphysical capacity that entails bearing structure, and veneer and illusion. They are all in the brick as we now know brick.

**Brick and Earth, Sky, Weathering and Temporality**

Bricks are used in purposeful human constructions. Purpose is not limited to the idea of narrow utility function, but includes intentionality -- from modest sheltering enclosure to monumental markers. For our purposes here, I would like you to create and hold in your mind’s eye a garden wall wholly constructed out of brick. Dig into your personal history, impressions or memories of brick walls -- perhaps those of Thomas Jefferson at the University of Virginia, or Chinese temple and garden walls, or a garden wall in your neighborhood -- to create your wall. Consider a wall that is just tall enough so that you cannot see over it. This garden wall, the one before you, is the armature for teasing out several more metaphysical properties of brick.

Garden walls have been selected because they sufficiently encapsulate the issues of the brick and its uses and thereby its metaphysics without the larger confusions of building program, complex constructional technology, etc. The idea of the garden wall can be held in the mind firmly during discussion.

The brick garden wall you are picturing in the earth. From below the frost line, it arises out of the earth to a height above our heads. The brick foundation in the earth brings to brick the essential condition of ‘earthness.’ Not the brick’s origin in the material of earth, but the earthness of founding, of support, of undergirding. By experimentation with its earth connection we may play with its thickness and width as a base for the upper part of the wall, or its depth to prevent heaving. This experimentation only makes the brick foundation even more of the earth by being tuned with it.

Looking up, consider the top of your wall. There it is, against the sky. Did you make it fancy with a molded cap? Or with a decorated edge? Or just end it smoothly and sharply? However you finished it, you did it. You also created a boundary, not with the earth, but with the sky. The brick wall is not only of the earth, but it is also of the sky. It acquires this ‘skyness’ through its use in creating shapes and profiles and silhouettes against the sky. The brick at the top of your wall shares this with kindred sky demarcations: brick spires or brick chimneys, or Dutch stepped brick end-gables, for example, where we experience brick and sky bordered and bonded.

Next, consider the elements of nature our walls must withstand. There are wind storms, rain, and frost. There is snow and the extreme heat of mid-summer. They fracture due to ice formed inside minuscule crevices, even as dirt, lichen and moss add to them. They stand there literally weathering, wearing away before us.(Mostafavi 1993) The walls survive the vicissitudes of nature, but not eternally, only for some allotment in time. The brick is time.

In this way, each brick entails earth, sky, weathering and temporality. These are not usually properties by which we define bricks. They are part of its being by virtue of human vision and practice, e.g., assembly of bricks into this garden wall, the one you are creating and holding in your vision -- and by extension, to all other brick constructions.
Brick and Otherness, Scene, Seeing, Being Seen and Transparency

We find ourselves within the garden, surrounded by the brick wall we have constructed. All walls enclose, but ours is of brick, so it encloses in a particular way. And it reveals in particular ways. Beyond our garden is a beautiful natural landscape. We wish to see it; we put openings in our wall. Periodically there are people strolling in the landscape who catch glimpses into our garden.

What kind of opening did you put into the wall? Small single-brick-sized peep-holes? Did you make a screen of narrow piers in the wall so that you could look out between them? Did you make a wider opening in the wall spanned by an arch?

Our envisioned garden walls share with all bounding walls the essential character of enclosing here, thereby defining the other, a place beyond, a place without. It is the metaphysics of walls that they ‘bound’ in this way.

It is the opening(s) in the wall, formed of brick and within the capacity of brick spanning structuring that I wish to focus on. The scene before us is brought within, as we look upon it, as we see it through our brick wall opening. Concurrently, depending on the nature of the opening through which we are peering, we may at the same time be seen. So we are simultaneously actor and object and part of the scene.

This condition is made particular by the material fabrication of our wall of/in brick. To have the capacity to weather, to withstand wind, to not topple, it has material weight and physical depth. Our masonry wall of necessity may actually be thick enough to sit in the view opening. Our openings are scaled by the dimensional character and compressive structural capacities of brick. Each brick contributes to the particularization of this enclosure and its apertures.

We can trump up a thick wall in concrete, making it an imitation of brick's material presence. We could make a palisade of wood. We could build a wall of boulders. We could make one of steel sheeting like Richard Serra does. But our wall, using the elemental bodypart-sized artifactual brick, engages and confronts us with being within a place, the place beyond, and the activism of the total scene in a uniquely rich way. It is knowing this about brick walls, about the practice of making walls of brick, that imbues brick not with solidity, but transparency.

Brick and Motion

One last iteration: brick entailing motion. We have established that next to our garden, on the other side of the wall, is a beautiful landscape. To access it, we need to arrange a passage through our wall. Therefore, we interrupt the wall. We form an opening into which we put a wooden gate with steel hinges anchored into the brick wall. Openings in brick walls intended for passing through are similar in their uniqueness to openings intended for seeing through. Differentiated from the continuity of the wall, they may be narrow or wide. They may be fitted and gated for closure or not.

In this act of constructing the opening and gate, we recognize the demands for the continuity of our enclosure and the desire to pass through it into the landscape beyond. We move our bodies through the opening. The gate in motion as we move through is a surrogate for the brick of the wall when closed. It is through shaping the trespassable threshold in the masonry wall, and the joint with the moving gate, that the brick of the wall acquires its metaphysical nature of motion.

Brick Is Not Inert, It has Active Presence

The path through this paper has asserted a metaphysics of brick that stems from its use in human habitat construction; its existence being coincident with a certain type of technological culture. Brick acquires temporality, motion, illusion, earth, sky and transparency by virtue of human practices and in turn, once used in construction, shapes our perceptions, thus recreating its metaphysics. The impact of this awareness for environmental designers is central to their undertaking. Brick, (extra)ordinary brick, is imbued with a density of meaning. That the meaning may change through time is not the point; nor is it the point that other materials may have similar depth (Note 5). The point is, brick’s various meanings, arrived at, not from a fixed a priori manner, but through praxis and techné are continuously alive. Desiring, designing, and building in
brick are less about color, composition, texture, and physical properties, than they are about brick’s deeper being, its metaphysics.

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Notes:
The philosophical material of these notes, particularly Notes 2 and 3, is presented here to ease presentation of the principal argument in the main text. For those wishing to consider the philosophical arguments in more detail, the notes provide the basis for my reasoning and serve as a departure point for debate.

1. *Metaphysics* is not used here to invoke a full epistemology and ontology: e.g., in what way do we exist, how do we come to know things, what is the nature of ‘being’ in the world, what is the nature of non-physical things such as ideas, values and judgments. The aim is much more circumscribed and based in everyday reality: to reflect on the essential character of an ordinary *objective thing*, a brick, that derives its essential character not only from its physical properties as an object subject to ‘scientific’ scrutiny, but also from its meaning and signification, its invention as a thing and its use in making other things through construction. It is in its creation and its use, the meanings and significations of its creation and uses, that it obtains a metaphysics in the sense intended in this essay.

2. Plato proposed a theory of Ideal Forms to account for the totality of reality -- physical (the natural world and its operations; objects) and conceptual (value terms like beauty, good, etc.). All that is, all that we can know, is prefigured *a priori*. Through human experience, intelligence and reasoning we strive to come to know essential truths. This process, the prefigured reality, full knowledge and truth and the various levels by which we attempt to know it are perhaps best distilled in the analogy of the ‘Divided Line’ and the simile of ‘The Cave,’ *The Republic*, Bk. VI, 509d-51e, and Bk. VII, 514a-517d, respectively. In the sense used by Louis Kahn and referenced here, an ‘arch of brick’ is a prefigured Ideal Form that is realized (or approximately so) by making a brick arch. In *The Republic*, Bk. X, 595-597, a bed is used as an example to clarify the prefigured total concept ‘bed-in-itself’ compared to the limitations of the instance of making a single bed. It is this pre-figuring totality that is the Platonic metaphysics of the brick as used here in this essay. *The Republic of Plato*, trans. with intro. and notes by F. M. Cornford, New York & London: Oxford University Press, 1941, is well indexed with regard to the topic of ‘form’. *Plato: The Republic*, trans. with an introduction by D. Lee, 2nd. ed., revised, New York: Penguin Books, c. 1955 & 1974, includes a useful appendix, "Appendix I: The Philosophical Passages in The Republic," pp. 456-459, which charts the path of the concept of ‘form’ through the text.

3. I will attempt to illustrate and extend the Aristotelian position of the essence of something arising from its fabrication. In his *Physics* Aristotle offers a counter to Plato’s bed. For Aristotle, there are naturally existing things that have material quality, their own order of change dynamic (growth & death, metamorphosis, etc.), and their own form (the compositum ‘man’ for example). Objects of art (of fabrication) are not natural and they have no pre-existent natural form. In the human intentional transformation of wood into a bedstead, the bedstead acquires form, and with many bedstead examples, we understand that form, judge their beauty, etc. Its material nature is the wood from which it is made, but its form arises from its invention. My position is that the bedstead acquires its own metaphysics, not from its prefigured form as Plato proposes, but from its invention and creation as Aristotle proposes, and, further, from its use as a place for sleeping, resting, bouncing, procreating, hiding under, etc. It is not the wood material that has the metaphysical character, but the bedstead. See Aristotle, *Physics*, Bk. II, Ch. 1, 192b-193b, trans. F. M. Cornford and F. Wicksteed, Greek Philosophy: Thales to Aristotle, ed. with an introduction by R. E. Allen, 2nd. ed, rev. & expanded, London: Collier Macmillan Publishers, c. 1966 & 1985, pp. 413-416. The conditions of creating such things: material, transformation into form, an operative agent, and ends (purpose) are discussed in Ch. III, 194c-195b, pp. 418-421. In Ch. IX, 200a, pp. 431-432, Aristotle discusses the antecedent conditions that give rise to fabrications (material and form of the end), without which there can be no creation. He postulates a case of the materials bricks and iron and the desired ends house and saw: “To sum up: the material will not account for the existence of the house or of the saw, though if they are simply not there -- no stones for the house, no iron for the saw, -- there will be no house
and no saw,” p. 432. As materials of nature stones can be found and used to heap into walls, or to be weapons, or to crush wheat; but their possibilities are too diffuse to entail a metaphysics of house. I propose here that brick, even though it is elemental, because it is an intentional object of creation, can contain such a metaphysics.

4. Since writing the Abstract and developing the first draft of this paper, I have reviewed M. Heidegger’s “Building Dwelling Thinking” (1951). In it he examines the metaphysics of the built environment in yet a third manner -- not Platonic or Aristotelian -- but from the “thingness” or “being” of construction; he uses a bridge as his example. While a garden wall as a completed construction may have a metaphysics analogous to the sense used by Heidegger for the bridge, I work backward to the metaphysics of the basic element upon which such constructions (be they walls, bridges, buildings, or language), are based. The basic invented element, in this case a brick, entails both an anterior condition (the technological organized constructing society) and a posterior condition (the construction that it is used to create), both of which are legible and knowable in the object ‘brick.’

5. Certainly similar cases could be made for stone (once it is intentionally cut and shaped), or wood (once it is intentionally milled), concrete (which is an invention on the order of brick), etc. This metaphysical depth is what makes the material content of architecture so formidable. Yet, it is also difficult to conceive a more elegant, enduring, pervasive example that covers the range from body to society to illusion, transparency and motion than brick.

Citations:


