Endnotes

Notes to Chapter 1


12 Cassette recording, “The Scope of Architecture at The Cooper Union Hall, 1-20-60”, Kahn Collection.


In Plato’s time, the works of poets such as Homer were treated as primary sources of moral and political instruction. Plato argues that their works are merely imitative, and easily produced, since the poet requires no real understanding of the issues their works cover.


Perhaps too readily, Jencks treats many architects as Platonists whose theories, if they were held against Plato’s actual dialogues, would fall short of Plato’s strict rationalism. For example, Jencks points to Mies van der Rohe’s “neo-Thomist education” and his frequent quoting of Saint Thomas of Aquinas, as foundations of Mies’ Platonism. Yet Aquinas is famous for reconciling Aristotle’s empiricism with Scripture, thus abrogating the Platonic/rationalistic views of Saint Augustine which had previously dominated Christian theology. In that respect, Thomism is the very antithesis of Platonism. Therefore, Mies’ references to Aquinas are more likely to suggest a preference for Aristotelian empiricism, than Platonic rationalism, a point made by Richard Padovan. See: Richard Padovan, “Machines a mediter”, in Rolf Archilles, Kevin Harrington & Charlotte Myhrum (eds.), *Mies van der Rohe: Architect as Educator*, Chicago: Illinois Institute of Technology, 1986, pp. 17-25.


Based on little more than their “commitment to a general idealism”, Jencks likens Le Corbusier, Mies van der Rohe, Walter Gropius, Aldo van Eyck, Louis Kahn and James Stirling to Platonic idealists, thus implying that the ideals to which these architects allude are like Plato’s Forms. For want of any self-confessed bona-fide Platonists, Jencks is forced to use a very loose definition of the term “Platonic” to find any use for it at all. See: Jencks, *Modern Movements in Architecture*, pp. 43-44 and pp. 232-233.


Jencks’ diagram depicts a cycle, wherein the “Platonic World” created the universe, which, through a series of four “jumps”, created humans with a capacity to look back at the Platonic Realm from which their own existence emanates.


Norberg-Schulz, “Kahn, Heidegger and the language of architecture”, p. 35.


Joseph Burton, “Notes from volume zero: Louis Kahn and the language of God”, in *Perspecta*, 20
Burton, “Notes from volume zero: Louis Kahn and the language of God”, p.76.


Brownlee, “Light, the giver of all presences: Designs to honor human endeavor”, p. 128.


Plato, *The Republic*, (476a, 507b and 596a-b).


Danto, “Louis Kahn as Archai-Tekt”, p. 188.


Cassette recording, “The Scope of Architecture at The Cooper Union Hall, 1-20-60”, Kahn Collection.

Interview, Steven Fleming with Anne Tyng, 29 January 1998, The University of Pennsylvania. (Cassette recording held in Kahn Collection).

Interview, Fleming with Tyng, 29 January 1998.


Burton, “The architectural hieroglyphics of Louis I. Kahn: Architecture as logos.”

Burton has drawn a number of parallels between Kahn’s writings and alchemical texts, and


63 Burton, “Notes from volume zero: Louis Kahn and the language of God”, p. 76.

64 Burton, “Notes from volume zero: Louis Kahn and the language of God”, p. 76.

65 File labelled, “College and University Correspondence, Jan. 1960 through …”, L.I.K. Box 64, Kahn Collection.

66 One such acquaintance is Josef Albers who Kahn helped bring to Yale in 1950. As previously mentioned, Albers, a former Bauhaus professor and artist, is influenced by de Stijl, a style philosophically underpinned by the Neoplatonic writings of Theo Van Doesburg.


68 Letter, Colin Rowe to Louis I. Kahn, 7 February 1956, file labelled, “Correspondence from Universities and Colleges”, L.I.K. Box 65, Kahn Collection.


70 Wittkower, Architectural Principles in the Age of Humanism, p. 23.

71 Letter, Rowe to Kahn, 7 February 1956.

72 Letter, Rowe to Kahn, 7 February 1956.


74 Rowe, The Architecture of Good Intentions: Towards a Possible Retrospect, p. 50.


77 Unfortunately, Colin Rowe died before the writing of this dissertation and the present author had been unsuccessful in his attempts to correspond with Rowe regarding his discussions with Kahn.

78 Letter, Rowe to Kahn, 7 February 1956.

79 Cassette recording, “The Scope of Architecture at The Cooper Union Hall, 1-20-60”, Kahn Collection.

80 File labelled, “College and University Correspondence, Jan. 1960 through …”, L.I.K. Box 64, Kahn Collection.

81 Cassette recording, “The Scope of Architecture at The Cooper Union Hall, 1-20-60”, Kahn Collection.

82 For a discussion of the differences and similarities between the historical Socrates and the Socrates of Plato’s dialogues, see: Thomas C. Brickhouse and Nicholas D. Smith, Plato’s Socrates, New York: Oxford University Press, 1994.
Notes to Chapter 2


3. While this dissertation assumes that buildings of Kahn’s which are designed after 1960 are conceived as manifestations of “forms”, it should be noted that Kahn does not specifically refer to another “form” diagram like the one produced for The First Unitarian Church and School in Rochester.


5. Ross, Plato’s Theory of Ideas, p. 11.

6. Plato, Meno (81).


16. Sayre, Plato’s Late Ontology: A Riddle Solved, p.18.


36The space in question is commonly referred to as Chόra, and it is discussed in greater detail in Chapter 5 of this dissertation.


40Norberg-Schulz, “Kahn, Heidegger and the language of architecture”, p. 29.


47Throughout this dissertation, reference is made to interviews which have been conducted by other Kahn scholars including Joseph Burton, David Brownlee, Jean France, Sarah Williams Ksiazek and Robin Williams.


David Brownlee, “Light, the giver of all presences: Designs to honor human endeavor”, p. 129.


References to specific reviews are made throughout this dissertation.


Ross, *Plato’s Theory of Ideas*.


76Plato, The Republic (510b).

77Plato, The Republic (507b and 524c).


80Building Committee Meeting, November 4, 1959, file labelled, “Building Committee Minutes 59-60”, Historical Records of The First Unitarian Church, Rochester.

81See file labelled, “Letters to Building Committee”, Historical Records of The First Unitarian Church, Rochester.


83Interview, Steven Fleming with Richard Forbes, 26 June 2002, Rochester.


85Interview, Fleming with Forbes, 26 June 2002.

86Interview, Fleming with Forbes, 26 June 2002.


88Norberg-Schulz, “Kahn, Heidegger and the language of architecture.”

89Kahn, “Form and Design”, p. 151.

Notes to Chapter 3

1Kahn, “Form and Design”, p. 145.

2Kahn, “Form and Design”, p. 145.
As art theorists and aestheticians are prone to do when discussing Platonism, Panofsky only concerns himself with one of the Forms, Beauty Itself, and not such Forms as The Church Itself, or The House Itself.

Panofsky’s work is taken as a point of departure in David Summers’ book, The Judgment of Sense. Whereas Panofsky defends Plato’s position, Summers defends Aristotle’s. Summers is not so pessimistic about the debasement of Plato’s Forms as Panofsky is. Rather, he views the influence of Aristotle — who believes that “the human soul, from sensation upward, is suited to its world” — as a positive influence on art theory. As one who personally favours Aristotle’s position, Summers goes on to argue that “the beautiful itself is conformity to human sense before it is evidence of transcendental value”. In so doing, Summers could be seen to join the ranks of the many Aristotelians whom Panofsky derides. See: David Summers, The Judgment of Sense: Renaissance Naturalism and the Rise of Aesthetics, Cambridge: Cambridge University Press, 1987.

Jeffrey Kipnis argues that Platonic dualism has become the metaphysics of everyday life and that this is reflected in popular culture. See: Kipnis, “Forms of irrationality”.

The ceiling structures of Kahn’s Yale Art Gallery and Richards Medical Building both accommodate service pipes in the manner described.

An alternative reading of Kahn’s theory, in terms of Jung’s metaphysics, would provide a valuable
addition to the present study, as well as Norberg-Schulz’s Heideggarian reading of Kahn’s theory. Such a study, emphasising the influence of Jungian thought on Kahn (and particularly his use of the word psyche), might demonstrate the usefulness of interpreting some of Kahn’s statements in terms of Jung’s belief in an ancestral race memory. Other relevant philosophies, including Karl Popper’s third world — the realm of abstractions — could also illuminate such a study. Popper’s realm of abstractions is like Plato’s intelligible realm in that it contains universals, but it is more like Jung’s collective unconscious in that the realm is ultimately of human construction. See: Karl R. Popper, *Objective Knowledge: An evolutionary approach*, Rev. ed., New York: Oxford University Press, 1979.


30 For example, in 1964 Kahn claims that in “everything that nature makes, nature records how it was made. In the rock is a record of the rock. In man is a record of how he was made”. See: Kahn, “Talks with students”, p. 158.


40 Kahn, “Form and Design”, p. 149.


43 Kahn, “Form and Design”, p. 145.

44 Burton, “The architectural hieroglyphics of Louis I. Kahn: Architecture as logos”.


52 As discussed in greater detail in part 2 of this chapter, Kahn’s clearest allusion to Plato comes in a 1960 address where he states that an architect must be like Socrates when contemplating the “form” on which to model schools. See: Cassette recording, “The Scope of Architecture at The Cooper Union Hall, 1-20-60”, Kahn Collection.

53 Christian Norberg-Schulz makes the observation that Kahn “subordinates the existentia to the essentia, and thus thinks within the tradition of Western metaphysics”. Norberg-Schulz, “Kahn, Heidegger and the language of architecture”, p. 29.

54 The marriage between Platonism and Christianity is discussed by various authors. See for example: Taylor, *Platonism and its Influence*.


67 At the back of the group’s “Brief History — Volume 1. No. 1”, “Scribe [David J.] Weiss” expresses
the atheistic view that man created God in his own image and for his own purposes, and that “God knows we need to think in these times”, when “behind our civilisation stands man’s murderous servant, science, growing more powerful by the hour, silently waiting to serve or slay”. File labelled, “Connoisseur’s Club”, L.I.K. Box 65, Kahn Collection.

68Minutes of meeting held 30 July 1948, file labelled, “Connoisseur’s Club”, L.I.K. Box 65, Kahn Collection.


71Tyng, “Simultaneous randomness and order: The Fibonacci-Divine proportion as a universal forming principle”.


74Tyng, “Resonance between eye and archetype”, p. 49.

75Tyng, “Resonance between eye and archetype”, p. 61.


79Thompson, On Growth and Form, p. 695. (Emphasis in original).

80Thompson, On Growth and Form, p. 1026. Here quoting Galileo, Thompson also mentions that this view of nature is, “as old as Plato, as old as Pythagoras, as old perhaps as the wisdom of the Egyptians”.

81Alan Kahn, “Conversations about Lou Kahn, [interview with Alessandra Latour]”, p. 65.


85Thompson, On Growth and Form, p. 720.


87According to the Stoic doctrine known as “Natural Science”, Stoics “believed they could show that the whole world (i.e. the universe) was the planned and providential work of God, [and] that human reason if correct must think in the same way as the divine reason”. See: F. H. Sandbach, The Stoics, London: Chatto & Windus, 1975, p. 69.


89Letter, MacKinnan to Kahn, file labelled, “Correspondence From Universities and Colleges”, 28 August 1958, L.I.K. Box 65, Kahn Collection.


this dissertation was refused access to Kahn’s personal library, which at the time was in the possession of Kahn’s daughter Sue Anne Kahn.


98Exodus, 3:14. The analysis presented here concerns English translations of this passage and does not take account of Hebrew versions.


100Kahn, “Talks with students”, p.186.

101Kahn, “Talks with students”, p. 188.


105“May your whole spirit, soul and body be kept blameless”. 1 Thessalonians 5:23. (New International Version).


107Burton, “Notes from volume zero: Louis Kahn and the language of God”.


109Cassette recording, “The Scope of Architecture at The Cooper Union Hall, 1-20-60”, Kahn Collection.


Kahn, “Louis I. Kahn notebook”, [undated, circa 1959], Box K12.22, Kahn Collection. (Ellipsis and deletions in original.)


Scholarship linking Kahn to Plato is discussed in Chapter 1 of this dissertation.


Report from the Building Committee Meeting, file labelled, “Building Committee Reports 59-60”, Historical Records of The First Unitarian Church, Rochester.

Report from the Building Committee Meeting, file labelled, “Building Committee Reports 59-60”, Historical Records of The First Unitarian Church, Rochester.


Cassette recording, “The Scope of Architecture at The Cooper Union Hall, 1-20-60”, Kahn Collection.

Cassette recording, “The Scope of Architecture at The Cooper Union Hall, 1-20-60”, Kahn Collection.
Kahn, “Order is”, p. 58.


Cassette recording, “The Scope of Architecture at The Cooper Union Hall, 1-20-60”, Kahn Collection.

The Margaret Esherick House was designed between 1959 and 1961.

As previously indicated, Joseph Burton observes that “Kahn’s primary notion of Form is like Plato’s theory of the ideas”. See: Burton, “Notes from volume zero: Louis Kahn and the language of God”, p. 76. In like manner Vincent Scully describes Kahn’s “form and design” theory as “a curious but very useful amalgam of Platonic Idealism and Pragmatic Realism”. See: Scully, “Introduction”, p. xix.


Interview, Steven Fleming with Colleen Hurst (historian for the First Unitarian Church in Rochester), 25 June 2002, Rochester.

In the previous chapter, Brownlee was quoted as stating that Kahn’s vocabulary is “fortified by allusions to respected authority”, particularly Platonism. See: Brownlee, “Light, the giver of all presences: Designs to honor human endeavor”, p. 129.


Anderson, “Public institutions: Louis I. Kahn’s reading of volume zero”.


Andrè Neher, “The view of time and history in Jewish culture”, in L. Gardet et al. (eds.), Cultures

15For example, see: Kahn, “How’m I doing, Corbusier?” , p. 301.


16Kahn, “I love beginnings”, p. 287.


17Kahn, “The nature of nature”, p. 142.

17Kahn, “The nature of nature”, p. 142.


17Kahn, “Talks with students”, p. 181. (Ellipsis in original.)


18Norberg-Schulz, “Kahn, Heidegger and the language of architecture”, p. 35.

18Norberg-Schulz, “Kahn, Heidegger and the language of architecture”, p. 31.


18Kahn reiterates his school analogy on many occasions. For example, see: Latour (ed.), Louis I. Kahn: Writings, Lectures, Interviews, p. 83, 101, 151, 229, 267 and 301. In the first and last of these examples Kahn specifically differentiates between “school” and “schools”. In none of these examples does Kahn use a plural term when describing the institution of “school”. Other examples of Kahn’s use of plural and singular terms to differentiate between singular “forms” and their many manifestations are provided throughout this dissertation.


Heidegger, Being and Time.

Kahn, “Address”, p. 209.


Kahn, “Form and Design”, p. 149. (Emphasis added).

Kahn, “Form and Design”, p. 149.

Kahn, “Form and Design”, p. 149.

Tyng, Beginnings: Louis I. Kahn’s Philosophy of Architecture.

Video cassette recording, Louis Kahn: Of Dreams and Drawing Boards, September 1962, Kahn Collection.


Post cards and similar souvenirs can be found throughout Kahn’s office files.


Tyng, Beginnings: Louis I. Kahn’s Philosophy of Architecture.


This quotation was cited on a wall plaque at the Yale University Art Gallery, under the title of “Homage to the Square”. However, these exact words do not appear in Albers’ monograph of that series and so their original source — possibly a lecture — is unknown. Josef Albers, 40 New Paintings by Josef Albers, September 28 Through October 24, New York: Sidney Janis, 1964.


Kahn, “How’m I doing, Corbusier?” p.298.
An example is the 1967 article, Kahn, “Statements on architecture”, p. 223.


Kahn, “Form and Design”, p. 145.

Kahn, “Form and Design”, p. 149, 151.

While buildings can be interpreted as signifiers of other earthly things, they are usually constructed for some practical purpose. Therefore, in the context of this dissertation, buildings are classified as useful artefacts, rather than artistic works.


Danto, “Louis Kahn as Archai-Tekt”, p. 190

Danto, “Louis Kahn as Archai-Tekt”, p. 190

Danto, “Louis Kahn as Archai-Tekt”, pp. 190-191

Danto, “Louis Kahn as Archai-Tekt”, p. 191

Danto, “Louis Kahn as Archai-Tekt”, p. 191

Danto, “Louis Kahn as Archai-Tekt”, p. 191

Danto, “Louis Kahn as Archai-Tekt”, p. 191

Scully, Louis I. Kahn.


Scully, Louis I. Kahn, p.11.


Hochstim, The Paintings and Sketches of Louis I. Kahn, p. 31.


Kahn, “Not for the fainthearted”, p. 258.

Burton, “Notes from volume zero: Louis I. Kahn and the language of God”, p.76.


Gorlin, “Modern architects reconsidered: Biblical imagery in the Work of Louis I. Kahn: From Noah’s Arc to the Temple of Solomon”.


A point that will be discussed in greater detail later in this dissertation should also be noted briefly, and that is that it would be difficult to confirm that such sketches are in fact “form” diagrams of the
kind produced for the Unitarian church at Rochester, since Kahn does not acknowledge them as such.

241 Letter, Rowe to Kahn, 7 February 1956.


244 Williams, “First Unitarian Church and School, Rochester, New York, 1959-69”.


256 Thompson, *On Growth and Form*, p. 695.

257 Tyng, “Perception and proportion.”

258 Thompson, *On Growth and Form*, p.720. Thompson found that certain species of radiolaria are “built” from tetrahedrons. Kahn and Tyng’s Philadelphia Tower proposal was also “built” from tetrahedrons.

259 It could be argued that tetrahedrons provide more suitable structures for radiolaria than buildings, since radiolaria do not need to accommodate upright inhabitants. Perhaps this practical difficulty led Kahn, just two years after the Philadelphia Tower project, to look for the Platonic Forms corresponding to building types, rather than biological structures, for his First Unitarian Church and School in Rochester.


264 Earlier in this chapter, the way in which Jung himself traces his own theory of archetypes to Plato and insists on the atemporal characteristics of the Forms/archetypes was noted.

263Kahn, “Talks with students”, p. 173.
265Kahn, “The room, the street, and human agreement”, p. 268.
266Kahn made this list of desires in 1965. See: Kahn, “Remarks”, p. 197.
267Kahn, “Talks with students”, p.183.
268Kahn, “Talks with students”, p. 168.
272Anderson, “Public institutions: Louis I. Kahn’s reading of volume zero”.
274Cassette recording: “The Scope of Architecture at The Cooper Union Hall, 1-20-60”, Kahn Collection.
275Kahn, “Remarks”, p. 194.
279Note that this statement is qualified, and is not meant to be conclusive. While not wishing to discuss the influence of transcendent models on Kahn’s work, elsewhere Scully has written that Egyptian Pyramids, when seen in certain lighting situations, seem to magically conquer gravity, enforcing a belief in transcendence. His own views about transcendence are therefore unclear. See: Vincent Scully, Architecture: The Natural and the Manmade, New York: St. Martin’s Press, 1991, p. 27. Whether Scully, or others who look for the historical sources of Kahn’s buildings, believe in transcendence themselves is beyond the scope of this enquiry; however, they do treat Kahn’s theory as though they were empiricists.
282Danto, “Louis Kahn as Archai-Tekt”, p. 191
284Holgate, Aesthetics of Built Form, p. 21.
imitation of natural forms”, and entombed pharaohs await the moment of transcendence with absolute confidence in human magic, “the single most consistent movement in Egyptian architecture thereafter was a kind of regressive return to the security of the earth and the imitation of its forms”. Since then, Scully claims, “[m]ankind has never felt so confident again”. See: Scully, *Architecture: The Natural and the Manmade*, p. 29.

294 The confusion among Renaissance theorists between Platonic and Aristotelian conceptions of beauty is dealt with definitively by Panofsky. See Panofsky, *Idea: A Concept in Art Theory*.


296 Wittkower, *Architectural Principles in the Age of Humanism*.

297 Genesis, 3:18.

298 Romans, 8: 20-21.


304 The extent to which other aestheticians, such as Emmanuel Kant, David Hume, John Dewey or Martin Heidegger may have influenced twentieth-century architectural theory is beyond the scope of this work.


307 The works of Wright, Gaudi, Utzon and Mies van der Rohe are provided as illustrations only. Confirming their aesthetic positions to be Aristotelian is beyond the scope of this thesis.


311 Padovan, “Machines a mediter”, p. 19.

312 Another possible example of this approach to nature is provided by Philip Johnson. With the Garden Grove Community Church, or “Crystal Cathedral”, in California, Johnson appears to borrow from his mentor Mies van der Rohe’s divination of nature. According to Johnson, this church intentionally bonds the experience of religion with the experience of nature. Being in essence hypaethral, the Crystal Cathedral brings the viewer’s attention to the least spoilt aspect of nature/creation in its urban context, the sky. See: Philip Johnson & John Burgee, *Philip Johnson/John Burgee Architecture 1979-85*, New York: Rizolli International Publications Inc., 1985.

313 St. Thomas Aquinas held that a passage from Paul’s Epistle to the Romans (1:20) sanctioned empiricism. That passage claims that God encoded his otherwise invisible qualities in material creation for all people to see.


318 For a discussion of this analogy, see: Barry Maitland, “The grid”, in *Oppositions*, Vol. 15, No. 16 (1979): 91-117. Le Corbusier sketches the human skeleton, the digestive tract, the cardiovascular system, and a complete body. A corresponding list of building elements, according to Maitland, would be “the structural skeleton, the volumes of the building defined by their own systems of walls independent of the structure, the circulatory system (which might be said to begin beyond the limits of the body proper), and finally a proportional or geometric system demanded by the building as a whole”. See p. 96.


326 It is unusual that with this quote Kahn does not mention Corinth, the forebear of Paestum and a building which Kahn had visited and sketched.

327 Kahn, “Address”, p. 208.

328 De Zurko, *Origins of Functionalist Theory*.

329 Wright, “The language of an organic architecture”.


331 Norberg-Schulz, “Kahn, Heidegger and the language of architecture”, p. 29.

332 Kahn, “Talks with students”, p. 167.


334 Kahn, “Space and inspirations”, p. 228.

335 Kahn, “A statement”, p. 146.


339 Kahn, “Spaces, order and architecture”, p.79.


Tyng, *Beginnings: Louis I. Kahn’s Philosophy of Architecture*. Note however that Tyng provides no evidence to suggest that Kahn knew of Einstein’s work.

Le Ricolais had been a contemporary of Kahn’s at the University of Pennsylvania.


Kahn, “The garden and the room”, p. 38.


Kahn writes that “[w]hen personal feeling transcends into Religion...and Thought leads to Philosophy, the mind opens to realizations”. See: Kahn, “Form and design”, p. 145.


Kahn, “Form and Design”, p. 152.


Kahn, “Form and Design”, p. 152.


Tyng, “Simultaneous randomness and order: The Fibonacci-Divine proportion as a universal forming principle”.


Fleming and Ostwald, “Rationalism”, p. 75.


Kahn, “Remarks”, p. 194.

Kipnis, “Forms of irrationality”.


Frampton, “Louis Kahn and the French connection”.

Kahn, “Talks with students”, p. 181.


Kahn, “A statement”, p. 146.

Plato, *Meno* (82-84).

Kahn, “Talks with students”, p. 181.

Kahn, “Talks with students”, p. 177.


Plato further subdivides the intelligible realm (*no ton*) of true knowledge, into two classes: dialectic (*no sis*) and mathematical reasoning (*dianoia*). He also subdivides the sensible realm (*hor ton*) of opinion, into two classes: physical things in which we have belief (*pistis*), and shadows or images which merely constitute illusion (*eikasia*).

David Brownlee, “Light, the giver of all presences: Designs to honor human endeavor”, p.129.


Brownlee, “Light, the giver of all presences: Designs to honor human endeavor”, p. 128.

Kahn, “Statements on architecture”, p. 221.

Kahn, “A statement”, p. 146.

Report to the Congregation from the Fact Finding Committee on Church Architecture, file labelled, “Building Committee Correspondence - Rochester, April 1959 through December 1960”, L.I.K. Box 15, Kahn Collection.


Kahn, “Form and Design”, p. 149.


Kahn, “Remarks”, p. 194.

Kahn’s veneration of belief can be likened to the Vatican’s veneration of faith. Traditionally, the Vatican has disregarded artefacts which might provide empirical proof of the Gospels — artefacts such as the Shroud of Turin — since such evidence would diminish the importance of faith within Catholicism.

Kahn, “Form and Design”, p. 152.

Sayre, *Plato’s Late Ontology: A Riddle Solved*, p. 191


For example, see: Kahn, “Talks with students”, p. 158.

Note that in Saint John’s Gospel (Chapter 9: verse 1-3), Jews of Christ’s time ask whether one’s own sin prior to birth could cause blindness in this incarnation. While the prospect of a previous incarnation is not central to Christendom, neither is it totally alien to the Judeo/Christian tradition.


Huff, “Kahn at Yale”, p. 28.

Interview, Steven Fleming with Robert Segrest, 22 June 2000, The University of Newcastle.

Jim Cunningham was also a Rochester based architect who had taken courses from Kahn. “Architectural and Building Committee Reminiscences, Jan. 28, 1979”, Kahn Collection.

Interview, Fleming with Forbes, 26 June 2002.


Doshi, “Louis Kahn in India”. 

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354 “Report to the Congregation from the Fact Finding Committee on Church Architecture”, file labelled, “Building Committee Correspondence - Rochester, April 1959 through December 1960”, L.I.K. Box 15, Kahn Collection.


357 Kahn, “Form and Design”, p. 149.


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364 Kahn, “Form and Design”, p. 152.

365 Sayre, *Plato’s Late Ontology: A Riddle Solved*, p. 191


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374 Jim Cunningham was also a Rochester based architect who had taken courses from Kahn. “Architectural and Building Committee Reminiscences, Jan. 28, 1979”, Kahn Collection.

375 Interview, Fleming with Forbes, 26 June 2002.


377 Doshi, “Louis Kahn in India”. 

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E-mail correspondence, Marshall D. Meyers to Steven Fleming, 8 April 1998.


Cassette recording, “The Scope of Architecture at The Cooper Union Hall, 1-20-60”, Kahn Collection.


Factors which may have predisposed Kahn towards Platonism are discussed in an appendix to this dissertation.

Notes to Chapter 4

1Kahn, “Form and Design”, p. 148.


5The most famous passage in which Plato questions his own doctrine of participation can be found in *Parmenides* (133-134).


7Wittkower, *Architectural Principles in the Age of Humanism*.

8Plato, *The Timaeus* (33).


12Genesis 1:27.


14The example of Hagia Sophia is presented here simply to illustrate how Plato’s theory of Forms might be applied to buildings. Whether or not Hagia Sophia was in fact conceived as the manifestation of a Form is beyond the scope of the current study.


33It is noted that these scholars do not purport to make Platonic metaphysics a part of their agendas. Each of these theorists openly advocates an empirical approach to the distillation of types based on the sensory observation of many particulars.

34Pérez-Gómez, *Architecture and the Crisis of Modern Science*.


Choay, *The Rule and the Model: On the Theory of Architecture and Urbanism*, p. 163. There is some possibility that Plato’s town plan as described in *The Republic* is based on an empirical model, namely the Hippodamian system. See: S. Lang, “The ideal city from Plato to Howard”, in *The Architectural Review*, Vol. 112, No. 668 (1952): 91-101. See p. 91 and note 3. However, as is to be expected, Plato himself makes no mention of such an influence.


Plato, *The Republic* (399e).

Crombie, *An Examination of Plato’s Doctrines*, p. 322.


Plato, *The Sophist* (266c).


Plato, *The Sophist* (266c).

Melling, *Understanding Plato* p. 98.

Ross, *Plato’s Theory of Ideas*, pp. 172-175.


66 Incidentally, Kahn’s drawings were similarly produced using a soft carpenter’s pencil onto yellow-trace which could be easily erased.

67 In his article *Form and Design*, Kahn moves from his analogy of the spoon, to the contemplation of “House” then “School”, to the example of The First Unitarian Church and School in Rochester. See: Kahn, “Form and Design”, pp. 148-149.


69 It has been seen that in *The Republic* (352e-353a) Plato distinguishes between pruning knives and carving knives, implying the existence of *The Pruning Knife Itself* and *The Carving Knife Itself*.

70 Plato, *The Republic* (545-549).

71 Plato views *Doubleness, Portability, and Discomfort* as Forms in their own right, and though particular beds may participate secondarily in those Forms, in the realm of Forms *Doubleness, Portability, and Discomfort* stand apart from *The Bed Itself*.

72 According to the previously identified delimitations of this study, only projects conceived from 1960 onwards are discussed in relation to Kahn’s “form and design” theory.


74 For further analysis of this project, see: Ksiazek’s [Williams], “Critiques of liberal individualism: Louis Kahn’s civic projects, 1947-57”, pp. 57-79.

75 Kahn, “Form and Design”, p. 148.


77 For example, Kahn speaks of “form and design” in his 1973 text: Kahn, “Thoughts”, p. 314.

78 Louis Kahn built three art galleries: The Yale University Art Gallery, New Haven, Connecticut, 1951-53, The Kimbell Art Museum, Fort Worth, Texas, 1966-72, and The Yale Centre for British Art, New Haven, Connecticut, 1969-74. With none of these did Kahn attempt to wrap smaller spaces about a central space, as he so often chose to do with other building types. Yet gallery spaces can and have been wrapped about central spaces, as for example Frank Lloyd Wright did with the Guggenheim Museum in New York.


80 On various occasions, Kahn refers to the discovery of “forms” corresponding to many building types. In one article alone he relates the concept of “form” to schools, Unitarian churches, laboratories, and cities in general. See: Kahn, “Form and Design”, pp. 145-154.


84 Discussing the Trenton Bath House in 1971, Kahn claims that “[t]he hollow columns … became the servant areas and all other areas became open, served by these hollow columns. From this came a generative force which is recognisable in every building which I’ve done since”. When Kahn says
that he “discovered himself” with this project, presumably he refers to the origins of his “servant and served” paradigm, and not the genesis of his “form and design” theory. See: Louis I. Kahn, “Kahn in conversation with Peter Blake, July 20, 1971”, in Richard Saul Wurman (ed.), What Will Be Has Always Been: The Words of Louis I. Kahn, New York: Access Press and Rizzoli, 1986, p. 130.

As discussed in Appendix 2 of this dissertation, Kahn’s Écoles des Beaux-Arts education under Paul Cret had a profound influence on Kahn’s development as an architect. It is also the most apparent influence steering Kahn towards symmetry. Yet if his education is the underlying influence leading to Kahn’s concentric plans, it remains an influence that Kahn himself does not acknowledge.

Interview, Fleming with Tyng, 29 January 1998.

Interview, Fleming with Tyng, 29 January 1998.

There is clearly scope for further scholarship into this alleged influence on Kahn, since Tyng and Lobell’s observations remain highly speculative and point to no direct or implied acknowledgement by Kahn of Jung or of the Mandala symbol. Another study might also make a comprehensive interpretation of Kahn’s texts in terms of Jung’s theories.


Kahn, “How’m I doing, Corbusier?”, p. 299.

cf. An isolated remark by Taylor could pose an anomaly to the otherwise straightforward proposition that the Form realm contains Forms corresponding to modern or future building types. Taylor claims that “there is nothing sensible which does not ‘participate’ in a Form or Forms”, and oddly, that “there is no Form which is not ‘participated’ in by something sensible”. See: Taylor, Platonism and its Influence, p. 35. Such a remark could be expected from a Plato scholar with a greater interest in Plato’s later, allegedly Aristotelian metaphysics, who holds that Plato’s Forms come into existence once an object has materialised — Aristotle’s Forms are dependant on participants for their existence. However, Taylor insists throughout his work that the Forms are atemporal and autonomous. Taken to its logical conclusion, the above remark by Taylor, coupled with his belief that Plato’s Forms are autonomous, requires there to have always been material manifestations of every Form. This places craftsmen in an absurd bind, since it rules out any possibility of invention, by invalidating any prospective Form not already manifest. Neither does this view accommodate a prehistoric time prefiguring the making of humankind’s first artefacts. Without being unnecessarily critical of Taylor, it can only be concluded that he does not have human craftsmanship in mind when he makes the above remarks.

From an Aristotelian standpoint, Forms can be conceived, developed or invented. While this work focuses on the classical theory of Forms, it is recognised that Plato scholars such as Sayre and Randall advance an Aristotelian view of Plato’s Forms. According to Sayre, Forms in Plato’s later works remain beyond sensory experience, as they are in the Phaedo and The Republic; however, in the Statesman and the Philebus, they are dependent on sensible things for their existence. The idea of measuring temperature in degrees, for example, depends on there being actual heat or cold to measure, Sayre explains. He also points to The Octave Itself, which, he claims, would be unnecessary were it not for the existence of musical instruments. See: Sayre, Plato’s Late Ontology: A Riddle Solved, p. 175. According to Randall, the Forms do not exist in an ontologically removed realm of Forms, but have their existence in Plato’s dialogues themselves. Figuratively, we paint the Form realm as we speak. Therefore, the Forms are temporal, and created by humans. See: Randall, Plato: Dramatist of the Life of Reason.

If, as John Randall claims, the realm of the Forms is simply the realm of human discourse, then, given our ability to discuss any kind of ideal building type, there would be no limit to the number of potential Forms corresponding to the task of building. From Randall’s standpoint, Plato’s theory of Forms could easily be extended to modern building types, such as The Office, The Tower Itself, or The Airport Itself.

Kahn, “Form and Design”, p. 151.
Kahn, “Remarks”, p. 194.


Crombie, *An Examination of Plato’s Doctrines*, p. 325.

For example, see Kahn’s 1961 text: Kahn, “The nature of nature”, p. 142.

Cassette recording, “The Scope of Architecture at The Cooper Union Hall, 1-20-60”, Kahn Collection.


Plato’s raises his concept of the “one” and the “many” on numerous occasions. For example, see: Plato, *The Republic* (507b).


See: Brownlee and De Long, *Louis I. Kahn: In the Realm of Architecture*, p. 127, Figure 215.


Kahn, “Form and design”, p. 149.


Frampton, “Louis Kahn and the French connection”, p. 27.

Frampton, “Louis Kahn and the French connection”, p. 27.


Giurgola, “Giurgola on Kahn”, p. 28.


Kahn, “Address”, p. 213.

Kahn, “Address”, p. 213.
The most famous examples of personification as a poetic device within Kahn’s vocabulary are his conversations with bricks.


Charles Jencks makes the point that Le Corbusier had, by the 1950’s “pre-empted almost every architectural position, for instance using industrial objects ‘as found’”. See: Jencks, Modern Movements in Architecture, p. 259.


Prior to his lecture at Berkeley, Kahn had made a very clear use of the hollow column in his Mikveh Israel Synagogue proposal.

Kahn, “Louis I. Kahn: Berkeley lecture”, p. 23. (The word “slide”, in square brackets, is added by the present author).

Brownlee, “Light, the giver of all presences: Designs to honor human endeavour”, p. 132.


Kahn, “Form and design”, p. 148.


Suisman, Doug, Cuff, Dana, McCleary, Peter & Loud, Patricia, “After architecture: The Kimbell

1Kahn, “Form and Design”, p. 151-152.

151 Little can be added to Kahn’s conception of a “form” corresponding to car-free cities by interpreting the above passage in terms of The Republic — nowhere does Plato discuss traffic problems — except to reiterate an earlier point that Plato’s philosophy implicitly allows for the discovery of Forms which, prior to certain technological advancements, slumbered without earthly participants.

152 Kahn, “Form and Design”, p. 151.


155 Notably, Plato’s remarks are directed towards absolute democracies, which, it could be argued, are more susceptible to popular opinion and whim than are representative democracies of modern times.

156 Kahn, “Form and Design”, p. 152.


160 Ross, Plato’s Theory of Ideas, p. 88.

161 Ross, Plato’s Theory of Ideas, p. 88.

162 The recipe analogy used here is provided by Professor David Dockrill of the Department of Philosophy at The University of Newcastle.


Notes to Chapter 5

1 Kahnt, “Form and Design”, p. 145.
2 Kahn, “Form and Design”, p. 145.
3 Kahn, “Form and Design”, p. 149.
4 Kahn, “Form and Design”, p. 149.
6 Wittkower, Architectural Principles in the Age of Humanism, p. 111.
7 Pappas, Routledge Philosophy Guidebook to Plato and The Republic, p. 70.
8 Plato, Timaeus (34b).
9 Vitruvius, The Ten Books of Architecture, p. 73.
10 Simson, The Gothic Cathedral: Origins of Gothic Architecture and the Medieval Concept of
Order.


17This claim can be confirmed by dividing dimensional lengths on Kahn’s plans and sections by corresponding dimensions running perpendicular to them, in search of factors which approximate 1, 0.5, 0.6666 and 0.75. When this exercise was conducted by the author of this dissertation, some class rooms were found to be square in plan. Otherwise, Kahn’s elevations, sections and plans continually fail to yield music based proportions, either approximately or precisely. If music based proportions were a feature of this building, then they could be expected to regulate the ratio between the width and length of the central sanctuary, this space being the symbolic focus of the project. Its width (53’) divided by its length (66’) yields a factor of 0.803030, or a ratio of approximately 4:5, which has no significance in musical harmony.


21See the drawing titled: “A2: First Floor Plan”, Kahn Collection.


23Pythagoras’ theorem states that, in a right-angled triangle, the length of the hypotenuse squared is equal to the sum of the other two sides squared.


25Such considerations may determine the width of the light towers, but such a minor calibration, if it is there at all, hardly rivals the fascination for proportions usually associated with geometrising architects.


27See the drawing titled: “A4: Upper Level Floor Plan”, Kahn Collection.

28See the drawing titled: “A3: First Floor Plan”, Kahn Collection.


Danto, “Louis Kahn as Archai-Tekt”, p. 188.

Kahn, “The nature of nature”, p. 141.

Kahn, “The nature of nature”, p. 141.

Kahn, “Form and Design”, p. 149.

Kahn, “Form and Design”, p. 149.

Plato, The Republic (527b), in Lee, p. 274.


Plato, The Republic (524e), in Lee, p. 270.

It will be noted that, in The Republic (529–531), Plato also prescribes studies in astronomy and harmonics. However, since he treats these as species of motion, their potential embodiment in a static medium such as architecture is greatly limited.


Plato’s preliminary schemes all feature square sanctuaries. The “circumstance” which deformed the shape of this space, was a letter from the building committee expressing their dislike of his scheme’s “inherent squareness”. Letter, Williams to Kahn, 28 February 1960, file labelled, “Building Committee Correspondence – Rochester, April 1959 through December 1960”, L.I.K. Box 15, Kahn Collection.


Kahn, “Form and Design”, p. 149.

Kahn, “Form and Design”, p. 149.

Dedication of First Unitarian Church, Rochester, NY Dec 2 1962”, Historical Records of The First Unitarian Church, Rochester.

Dedication of First Unitarian Church, Rochester, NY Dec 2 1962”, Historical Records of The First Unitarian Church, Rochester.

Interview, Fleming with Forbes, 26 June 2002.


Plato, The Republic (524e), in Lee, p. 270.

Vallebuona, “Louis Kahn in Wonderland”.


Vallebuona, “Louis Kahn in Wonderland”.


Tyng, Beginnings: Louis I. Kahn’s Philosophy of Architecture.


Kahn, “Form and Design”, p. 149.


A more detailed explanation of how Plato comes to give The Good its title can be found in: Pappas, Routledge Philosophy Guidebook to Plato and The Republic, p. 137-138.

This explanation of The Good Itself and its place in Plato’s philosophy has been provided to the author of the present dissertation by Professor David Dockrill of the Department of Philosophy at The University of Newcastle. See: David Dockrill, “A Note on the Form of the Good in The Republic and the Forms in the Timaeus”, unpublished manuscript, in possession of the author, Newcastle, Australia.


Kahn writes that “the mountains are spent light, the air is spent light, the streams are spent light and we are spent light”. See: Kahn, “Architecture”, in Latour, p. 273.


In Book I, Chapter IV of The Ten Books of Architecture, Vitruvius writes that “all bodies are composed of the four elements… heat, moisture, the earthly and air”. This statement is predicated on the Pythagorean elements, earth, rain, air and fire. See: Vitruvius, The Ten Books of Architecture, p. 18.


Kahn, “Form and Design”, pp.145-152.


Swaan, The Gothic Cathedral.
In surveying Kahn’s built work, nothing stands out as having been conceived with arithmetic in mind. There are buildings such as the hospital in Dacca which feature repetitive elements — in this case arches — which could act as visual aids for counting, but the same could be said of almost any building. It is only through a few drawings that Kahn might reveal an interest in arithmetic. In not all, but a few of his drawings, particularly those made during the 1930s, 1940s and 1950s, Kahn renders trees in a highly abstracted wire-line style. (See Brownlee, “Adventures of unexplored places: Defining a philosophy, 1901-51”, Figures 18, 31 and 33). Perhaps betraying the influence of Le Corbusier’s Purist paintings, these renderings depict an essence of trees, yet barely resemble their visual appearance.

These renderings also resemble diagrams of the Fibonacci progression. According to Fibonacci, branches, like male and female pairs of rabbits, mature for a nominal two months before they are able to sprout new branches every one month thereafter. The resultant growth pattern produces the Fibonacci series: 1,1,2,3,5,8,13,21… The sum of any two consecutive numbers in this series will produce the next number in the series, for example, 3+5=8.

As the Fibonacci series progresses, the ratio of any number to the next approaches the golden or divine mean of 1.618. For example: $\frac{21}{13}=1.615$, and $\frac{34}{21}=1.619$. (See: Leonardo Pasano, Fibonacci, The Book of Squares, Orlando, Florida: Academic Press, 1987 p. xviii). Kahn is likely to know of Fibonacci’s progression through Anne Tyng, since her own Ph.D dissertation focuses on this particular topic. (See: Tyng, “Simultaneous randomness and order: The Fibonacci-Divine proportion as a universal forming principle”). The trees which Kahn draws suggest a greater interest in that mathematical theory than they reflect his visual observation of any actual trees. As such, they have the potential to act as visual aids towards the contemplation of a mathematical formula. While the offspring of that formula, the golden mean, is not specifically mentioned in The Republic, Jeffrey Kipnis argues that an oblique allusion to it is made in Timaeus where Plato considers the ideal triangle. According to Kipnis, this is an allusion to the triple triangle which the Pythagoreans had chosen as their symbol due to the extraordinary number of golden mean relationships contained within that figure. (See: Kipnis, “Twisting the Separatrix”, p. 156). In a broad sense therefore, Kahn’s possible interest in the Fibonacci series, as evidenced by his sketches of trees, may fall within the greater sphere of Plato’s interests, but such an interpretation must be considered highly speculative.

It should also be noted that the same renderings could just as easily lead the minds of other viewers downwards, by causing them to admire particular trees rather than the purely mathematical pattern which they evoke. Presented with the Fibonacci progression, certain viewers might also be led to contemplate rabbits, or nautilus shells. The cliché that beauty is in the eye of the beholder provides an apt qualifier to the claims made here, only in the case of edifying architecture, arithmetic is in the eye of the beholder. Even a triangular tile pattern may cause certain viewers to contemplate particular triangular things rather than The Triangle Itself. Likewise, late twentieth-century buildings which evoke the Mandelbrot set, might cause a mathematician to contemplate the simple mathematical formula (where an infinite succession of new $z$ values are replaced by $z$ squared plus c) from which the Mandelbrot set is derived, while others might be more concerned with the natural phenomena which graphic illustrations of that formula seem to emulate.
With regards to Astronomy – which Plato views as the study of physical motion and relative velocity - it could be argued that with buildings such as the Kimbell Art Museum, Kahn consciously celebrates the sun’s trajectory through the sky. However; there is no scientific study of physical motion implied in Kahn’s descriptions of this phenomena. His appreciation is that of an artist, who simply admires changes in lighting character for their own sake.

9 Danto, “Louis Kahn as Archai-Tekt”, p. 188.


9 Plato, The Cratylus (436d).

9 Plato, Timaeus (55-56).

The regular solids in Platonic cosmology are those formed by identical polygons on every surface. For example, the tetrahedron features an equilateral triangle on each of its four surfaces.

10 Plato, Timaeus (34b).

10 Earlier in this chapter it was claimed that viewers are led to believe that the sanctuary of Kahn’s First Unitarian Church is actually a square and that the surprise caused when they find that it is not, could cause them to consider The Square Itself. Yet here it is suggested that an accurately proportioned square might have the same effect.

103 Banham identifies the theoretical thrust of the de Stijl movement as being specifically Neoplatonic, concerned as it is with an “ultimate reality lying behind the accidents of mere appearance”. (Banham, Theory and Design in the First Machine Age, p. 151). According to Banham, such appeals are indicative of what he refers to as the “vaguely Platonic ideas” which would help unify Parisian theorists with their Dutch (de Stijl) counterparts, and ultimately unify the International style as a whole. (Banham, Theory and Design in the First Machine Age, p. 205).

107 One slight anomaly to the claim that this sanctuary is modulated according to cubic blocks, is a quarter height course of blocks forming a datum line at the height of the lintels above the door entrances to this space. See Figure 68.


12Kahn, “Address”, p. 209.

12Kahn, “Address”, p. 209.

12Kahn, “Form and design”, p. 148.


13Scully, “Marvellous Fountainheads: Louis I. Kahn: Travel Drawings”.


13Kahn, “Not for the fainthearted”, p. 258.


14Michael J. Lewis, “Kahn’s Graphic Modernism”, in Eugene J. Johnson and Michael J. Lewis (eds.), *Drawn From the Source: The Travel Sketches of Louis I. Kahn*, Cambridge, Massachusetts:

144Plato, Timaeus (50d).

145Plato’s reproductive analogy for receptacle space is predicated on a gender bias which is central to ancient Greek philosophy. For further discussion of this issue, See: Bergren, “Architecture gender philosophy”, pp. 9-46.


147 The absurdity, from a philosophical perspective, of Eisenman’s project has been pointed out by others, including his collaborator Jacques Derrida. (See: Jacques Derrida, “A letter to Peter Eisenman”, in Assemblage, No. 12 (1990): 7-13. For a discussion of Eisenman and Derrida’s exchange with relation to Platonic architecture, see: Bergren, “Architecture gender philosophy”, pp. 9-46.) In plan, Eisenman’s Choral Works project can be interpreted as a diagram, which, in some sense, illustrates the receptacle’s function. As this dissertation has made clear though, The Republic treats works of architecture as useful artefacts modelled on corresponding Forms. While Eisenman’s Choral Works project may have some incidental use, as a place for relaxation, it is primarily sculptural and didactic. It is not a useful artefact in the same sense that a bed is; rather, it is modelled on a conception of the receptacle, that being the only entity in Plato’s philosophy which is neither a Form or a particular. Insofar as Plato’s philosophy of craftsmanship as put forward in The Republic is concerned, Eisenman’s is flawed premise.


149Pérez-Gómez, Architecture and the Crisis of Modern Science.

150Notably, Pérez-Gómez does not prove that architects of the Neoplatonic tradition were conscious of Plato’s conception of space as a receptacle of Forms, or of the transcendental meaning of space.


155Kahn, “Form and Design”, p. 149.


157Danto, “Louis Kahn as Archai-Tekt”.

158Plato, The Republic (600e), in Lee, p. 367.

159Kahn, “Monumentality”, in Latour, pp. 18-27.

160Within the set of working drawings produced for The First Unitarian Church and School in Rochester which are held in the Kahn Collection, there are window head details showing steel lintels.


162Plato, The Republic (601-602).

163Plato, The Republic (602).


165Plato, The Republic (602).

166Plato, The Republic (602c-d), in Lee, p. 370.
Notes to Chapter 6

6Cassette recording, “The Scope of Architecture at The Cooper Union Hall, 1-20-60”, Kahn Collection.
9Kahn, “Form and Design”, p. 145.
10Kahn, “Form and Design”, p. 145.
11Kahn, “Form and Design”, p. 145.
16Williams, “An architectural myth: The design evolution of Louis Kahn’s First Unitarian Church”.
17Kahn, “Form and Design”, p. 148.
18Cassette recording, “The Scope of Architecture at The Cooper Union Hall, 1-20-60”, Kahn Collection.
19 Kahn, “Form and Design”, p. 145.
20 Kahn, “Talks with students”, p. 181.
21 Kahn, “Remarks”, p. 194.