

## **Chapter 2: Preliminaries**

The history of architecture provides a distorted view of Plato. This chapter introduces his work as philosophers view it. Philosophers see metaphysical distinctions to which architects are often blind and must therefore view the history of architecture as one of metaphysical contradictions. Yet from an architectural historian's standpoint, the contradictions which would bother philosophers can be accepted as a relatively unobtrusive backdrop to a history told by buildings. Unfortunately, this is a backdrop which could further distort architects' perceptions of what Platonism might mean to their discipline and thus hinder the present inquiry. Hence this chapter commences with what might be termed an *ex nihilo* exploration of the architectural ramifications of Plato's philosophy.

Even though Kahn is a figure from the recent past, common prejudices and perceptions surround him. This chapter provides an introduction to Kahn's theoretical text titled "Form and Design", which explains how that text will be approached later in this dissertation. The discussion of the text stems from an overview of the various kinds of source material which are drawn upon in this work.

This chapter also provides a description and critique of Kahn's First Unitarian Church and School in Rochester, New York. Since within this dissertation Kahn's church in Rochester is treated as the primary exemplar of his "form and design" theory, it is important that readers be familiar with the story of its design, understand its planning arrangement and appreciate its position with respect to the rather belated maturation of Kahn's career.

Although its primary realm is that of architectural history, this dissertation draws heavily on another discipline, philosophy, which has devised a language specific to its concerns. Part of this chapter clarifies the terminology adopted by the present work, with an emphasis on words which have different connotations in philosophical and architectural contexts.

Finally, this chapter provides summaries and an outline of the structure for the entire thesis. Firstly though, this chapter discusses the objectives and limitations of the present inquiry.

## Objectives

Broadly speaking, Kahn's "form and design" theory resembles, at least on a superficial level, Plato's theory of Forms and within the literature on Kahn there is sufficient consensus to support such a claim. However, can it be said that Kahn's "form and design" theory *is* Plato's theory of Forms, either in the sense of an accurate architectural extension of Plato's theory or in the sense of an exemplary Platonic theory of architecture, such as Plato might have written? Kahn's "form and design" theory holds within it the tantalising promise of a Platonic theory of architecture. Such a theory would not concern itself with superficial appearances, or be so otherworldly as to be of no practical use, but it would be one which engages with the true spirit of Plato's philosophy of craftsmanship as Danto suggests.

If it were to be identified as the architectural corollary of Plato's theory of Forms, then, if not in its text but in the ideas expressed therein, Kahn's article titled "Form and Design" would need to be treated in a canonical sense, as representing a fundamentalist return to a kind of alpha moment for architecture of the Western philosophical tradition. However, conferring such a status on Kahn's theory would require an affirmation of the hypothesis that Kahn's "form and design" theory and Plato's theory of Forms are expressions of the one philosophy. Unfortunately, this would be an impossible task. Even if the lessons of poststructuralism and deconstructionist textual analysis were ignored altogether, it remains that Plato's treatment of these issues has been interpreted in a variety of ways. There are also debates surrounding the interpretation of Kahn's theory.

The value of an in-depth study of Kahn's "form and design" theory in terms of Plato's theory of Forms must therefore lie in more qualitative outcomes arising from such an exercise. Some of these grow out of a philosophical development of Kahn's theory which is intrinsic to many of his metaphysical pronouncements. This

study unearths an alternative interpretation of Kahn's work and teaching, bound by an internally consistent philosophical system, Plato's theory of Forms. Thus Platonism provides a conceptual lens through which Kahn's writings are re-examined.

It is not an objective of this dissertation to encourage an acceptance of Platonism by architectural theorists. Although this research could be seen to cast certain figures in a favourable light for their adherence to principles expressed by Plato, there is no attempt by the present author to proselytise, or champion Platonism as a cause. Likewise, this dissertation identifies a number of scholars whose treatment of Platonism detracts from an appreciation of Plato's original philosophy. These instances are simply points of clarification. No criticism of architectural scholars is intended and there is no suggestion by the present author that architectural discourse is in any way indebted to, or bound by, Platonic doctrines.

### **Limitations**

Using a method known as discourse analysis, this dissertation examines the hypothesis that, the position with respect to metaphysics, participation and edification which is espoused in Kahn's 1961 article titled "Form and Design" parallels Plato's treatment of those themes in discussions of the theory of Forms contained within *The Republic*. At its most narrowly defined, this question represents the scope of the current work. As is to be expected though, in order to investigate issues relating to this hypothesis, a broader picture will often need to be considered. For example, it is essential that the formative years of Kahn's philosophy, before the announcement of his "form and design" theory, be examined, even though Kahn is preoccupied with other concepts during this period.

The scope of this thesis is also broadened to include discussion of Kahn's

buildings, since it is hypothesised that some relationship exists between his work and his espoused philosophy. Kahn's First Unitarian Church and School in Rochester is the focus of such considerations, since it is the development of this building which parallels, and, as will be discussed later, gives rise to, Kahn's "form and design" theory.<sup>1</sup> Also, in consideration of a common view, that Kahn's most successful buildings are his religious and symbolic works,<sup>2</sup> it is fitting that this building be treated as an exemplar of Kahn's philosophy since it is Kahn's most significant built church. However, this building is not the only exemplar of Kahn's "form and design" theory and Kahn continues to espouse this theory after the completion of his church in Rochester. Since Kahn does not state otherwise, any of his projects post 1960, when he announces his "form and design" theory, could be expressions of that theory as well. That is, Kahn's later buildings may similarly be modelled on "forms".<sup>3</sup> For this reason, some account will be taken of Kahn's later buildings as they relate to his "form and design" theory. Furthermore, there are many instances where design decisions made for other projects cast light on decisions made in Rochester.

Note that within the parameters of this study, only projects conceived from 1960 onwards are treated in relation to Kahn's "form and design" theory. This is despite the seeds of his dualistic metaphysics appearing to be laid as early as the 1940s. There is, according to Frampton, a "transcendental strain" to Kahn's theory of "Order" during the 1950s.<sup>4</sup> However, there is no evidence that Kahn thinks about ideal plan types and their manifestations — this being the central concern of his "form and design" theory — before 1960.

### **The Theory of Forms in *The Republic***

Before proceeding with the thematic reading of Kahn's text in terms of Plato's, a preliminary discussion of the Forms and of architecture within *The Republic* is required. This discussion is primarily intended to clarify the approach to

Plato's text that is adopted throughout this study.

The theory of Forms, as it is presented within *The Republic*, must be viewed within the context of the historical events and the popular philosophical assumptions which influenced Plato's thinking. As a young man Plato witnessed the fall of Athens and the death of Socrates; *The Republic*, with its appeals to Forms, contains Plato's vision for a society immune from such events. The philosophical climate in which *The Republic* was written also contains within it many of the ideas on which Plato's metaphysical deliberations are predicated. With respect to Plato's development as a philosopher, *The Republic* is thought to have been written not long after his establishment of the Academy, during what is commonly known as his middle period.

The son of an aristocratic Athenian family, Plato was born in 427 BC. The fateful Peloponnesian war against Sparta had begun a few years earlier, but during Plato's youth, this was not taken too seriously in Athens, where democracy and prosperity had created a false sense of security. However, during Plato's early twenties a number of catastrophic events would leave him with a deep sense of disillusionment. Athens surrendered to Sparta, the democracy — including members of Plato's own family — was supplanted for a time by thirty self-seeking tyrants and Plato's mentor and hero, Socrates, was turned into a scapegoat for the city's woes and executed. Therefore, while *The Republic* contains a trace of Socratic mysticism, it cannot be dismissed as being altogether otherworldly, not when the very practical need for stable governance and justice inspired its writing.

Significantly *The Republic* does not emerge from a philosophical vacuum. Many Greeks of Plato's era believed that the individual's unreliable senses should not obscure the conclusions of abstract thought. In this they were influenced by Heraclitus' descriptions of men as wandering about in a dream state and following subjective opinions. Plato first responds to this dilemma in his earliest dialogues (*Charmides*, *Laches*, *Euthyphro* and the *Hippias Major*), by proposing that single things exist for which such words as temperance stand.<sup>5</sup> This train of thought

continues in *Meno*, where Plato has Socrates and Meno intuit that there must be such a thing as absolute virtue, or *Virtue Itself*, although they have witnessed no perfect manifestation of that concept in the phenomenal world.<sup>6</sup> Socrates and Meno conclude with the Pythagorean view that their sense of virtue must have been learned in a previous incarnation and could now, with some mental exertion, be recalled. In a subsequent dialogue, *Phaedo*, Plato “completes”<sup>7</sup> his theory of recollection, to use David Melling’s description, by defining the past life as a realm of archetypal Forms.

Before discussing the theory of Forms any further, it must be noted that the very existence of a theory of Forms, either in *The Republic*, or for that matter *any* of the dialogues, is a contested issue. There are also differing opinions as to what exactly the theory of Forms states. While relevant objections to the existence and nature of the theory are raised during the course of this thesis, the weight of opinion attributes a theory of Forms to Plato and most scholars describe the Forms along the following lines.

The theory of forms is commonly described as though it were predicated upon a dualistic division between the physical realm and an ideal realm beyond sensory experience. According to what Crombie terms the classical theory of Forms, “there exists both the physical world and the ideal world, and the objects to be found in the former are more or less poor copies of the objects to be found in the latter”.<sup>8</sup> Plato’s most famous illustration depicting the ideal and physical worlds is his simile of the cave in *The Republic* (514-515), which likens the relationship between Forms and physical objects to that of physical objects and their cast shadows, the implication being that physical things are like shadows compared to the truth of the Forms. As the eminent scholar of Plato’s philosophy Alfred Taylor writes, “Plato, like Kant, is accused by his opponents of dividing the universe into ‘two worlds’”.<sup>9</sup> Aristotle is the first to criticize Plato’s theory of two worlds, arguing that it does little to explain phenomenal objects, and worse still, it doubles the number of objects beyond human understanding.<sup>10</sup>

Plato scholars are divided in their treatment of this apparent weakness in his system. Taylor holds to a dualistic interpretation of Plato's metaphysics, emphasising the transcendent and atemporal nature of the Forms. However, Taylor's is not the only interpretation of Plato's metaphysics. Diametrically opposed to Taylor's approach is that adopted by John Herman Randall.<sup>11</sup> Randall describes his approach to Plato's dialogues as direct and naïve, "brushing aside all accretions of interpretation and theory".<sup>12</sup> He rejects traditional interpretations of Plato as a canon of Platonic doctrines derived by latter day figures. Instead he provides a wholly Aristotelian interpretation of Plato's metaphysics. This leads him to an anthropocentric understanding of the Forms, which, he claims, are a product of human discourse and therefore not of another realm at all. How does Randall reconcile this interpretation with the dualism expressed in Plato's parable of the cave? Randall views this parable as a dramatic myth, designed simply to impress the difference between phenomenal knowledge and knowledge which is arrived at through the agency of reason alone. Randall maintains that "Plato is perfectly capable of stating in precise terms what he wants to state".<sup>13</sup> Should Plato himself believe in a dualistic metaphysical system, Randall believes he would express it directly. Randall acknowledges the formative influence upon his position of Frederick Woodbridge, whose own work gives precedence to the dramatic, rather than the doctrinal, aspects of Plato's work.<sup>14</sup>

Taylor's and Randall's interpretations of Plato are polar opposites. Between these two extremes lie what might be termed dispensational Plato scholars, such as Kenneth Sayre. Sayre doesn't see Plato's metaphysics as being entirely dualistic or entirely Aristotelian, but rather, he discerns a shift from the former to the latter in Plato's later dialogues.<sup>15</sup> According to dispensational scholars, middle period dialogues such as *The Republic* generally describe the Forms as transcendent entities. However, Sayre argues that Plato's own thinking on the issue developed, even during the course of single texts. As for Plato's parable of the cave, Sayre warns readers not "to assume that Plato endorses the conclusions of every argument



he puts in the mouths of his main protagonists”.<sup>16</sup> A pioneering work of dispensational scholarship on Plato’s development is *Plato’s Progress*<sup>17</sup> by Gilbert Ryle. Ryle argues that “we have to recognize that Plato’s thought moved. We have to try to chart an intellectual odyssey [...]”.<sup>18</sup>

Taylor objects to this proposition, arguing that “the whole conception of a marked difference between an earlier and a later Platonic metaphysics has no tenable foundation”.<sup>19</sup> Sharing Taylor’s view, Crombie writes that,

the doctrine that Plato repented of his belief in [F]orms conflicts with the Aristotelian evidence. Aristotle says nothing of any such change of mind. We gather from Aristotle that Plato never ceased to believe in [F]orms. This is of course compatible with the view that Plato’s ideas on these matters developed considerably, but hardly with the view that there was a drastic repentance.<sup>20</sup>

Crombie defines a classical theory of Forms which, he claims, is both internally consistent and which is consistent with the various statements that Plato makes about the Forms over time. The notion of two worlds, Crombie argues, is not Plato’s primary thesis. Rather, the mainspring of his theory of Forms is his distinction between reason and observation. Crombie describes the Forms in the classical sense, as atemporal and autonomous objects of reason, which humans should recall and then apply in the terrestrial realm. Rather than seeing particular phenomenal things as *copies* from the Form realm, Crombie describes a physical thing as an

extension differentiated from other bits of extension by the [F]orms which characterise it — [for example] this penny is at the moment an instance or meeting-point of roundness, hardness, coldness and so forth [these being Forms].<sup>21</sup>

Within *The Republic*, the Forms are brought into the discussion, or appealed to, on four occasions, in Books 5, 6, 7 and 10. Art and architectural theorists have traditionally focused their attention on Book 10’s analogies concerning painting and craftsmanship, however, it should be noted that the treatment of Forms in Book 10 differs from the treatment of that subject in the earlier books. Books 5, 6 and 7 only

mention Forms corresponding to terms of relation and morality, for example hardness and justice. The earlier books propose that earthly things simultaneously participate in antithetical Forms, for example, a hard piece of wood participates in *Hardness Itself* but, to the extent that it is softer than a piece of steel, it also participates in *Softness Itself*. Only a Form, *Hardness Itself*, could bear its predicate completely. This argument is referred to as the argument from opposites.

The proof for the existence of Forms in Book 10 does not involve opposite qualities, but rather, a distinction between particulars and the concepts used to classify them. This is commonly referred to as the one-over-many argument. Socrates is quoted as saying “[y]ou know that we postulate in each case a single [F]orm for each set of particular things, to which we apply the same name?”<sup>22</sup> Following on from this succinct justification for the existence of Forms is Plato’s famous parable of the bed maker, which tells of a craftsman looking to *The Bed Itself* as a model for the many beds he makes. What those beds and all other beds have in common is not another bed, kept under glass at the bed maker’s institute for example, but the essence of beds. While not being another bed, the essence of beds defines the irreducible arrangement of elements common to all beds and satisfies all of Plato’s conditions for being a Form.<sup>23</sup>

This brief overview of Plato’s theory of Forms does not put forward any argument which hasn’t been explored in far greater detail within philosophical discourse. Its purpose has been to address an architectural audience, for whom references to Plato are seldom associated with the theory which has just been outlined. Architects tend to associate Plato with elementary solids, such as cubes or cylinders, or with the inscription of sacred geometry in Renaissance churches. As will become more apparent during the discussion which follows, it is vital within the present context that *The Republic* be viewed as it is by philosophers.

## ***The Republic and Architecture***

Of the two arguments for Forms, the one-over-many argument has the greater affinity with architecture than the argument from opposites. Many extant structures are sufficiently alike to be called, for example, houses. While people may choose to live in caves, cathedrals, tents, stables or any other kind of sheltered space, to the thinking of many there remains something, an essence, which is common to those buildings for which the word house is reserved. In terms of Plato's parable of the bed maker, what many particular houses have in common is that they all participate in the one Form, *The House Itself*. The affinity between the one-over-many argument and architecture is even greater when looking specifically at design theories which emphasise the study of typology, or which advocate a pattern-book approach to design. So relevant is the one-over-many argument to the work of specialist architects, producing buildings of the same type again and again, that too keen an interest in this argument could lead to the erroneous conclusion that the day-to-day business of designing buildings epitomises Platonism in action.

That Plato should enlist two separate arguments for the existence of Forms, of which only one seems to speak clearly to the discipline of architecture, serves as a warning within the present context, not to view the theory of Forms as a design theory, or as a credo for craftsmanship. The philosopher Nickolas Pappas argues that the theory of Forms is not a product of the two simultaneous arguments for the Forms' existence which are found in *The Republic*. Rather, it is a continuation of "Socrates' project of defining ethical terms, so that the general statements Socrates looked for about virtues might be true of some ideal objects[...]".<sup>24</sup> It may only be a coincidence that one of Plato's justifications for the Forms happens to resonate quite well with architecture.

Furthermore, the parable of the bed maker is not really about beds and how to make them. While it compares beds to paintings of beds, neither is it really about paintings, thus interpretations which treat the parable as the basis of Plato's theory

of art have many detractors.<sup>25</sup> The parable, with its appeal to the Forms, is actually enlisted to discredit poetry, a medium which Plato frequently attacks as though it were the scourge of Athenian society. Just as a painting of a bed is at two removes from *The Bed Itself*, so the espousal of an ethical principle made by a character in a poem is at two removes from the ethical principle itself. Essentially, Plato's appeal to Forms in Book 10 of *The Republic*, along with any ensuing ramifications for architecture, is incidental.

For any dialectic to exist between architecture and the theory of Forms as put forward in *The Republic*, a considerable degree of extrapolation is required. Between those extrapolations which are too far-fetched and those which are too tentative, there is a middle ground wherein certain architecture-related claims can be made which are in the spirit of Plato's inquiry. Already two such claims have been seen, both coming from the philosopher Arthur Danto. According to one claim, Plato would prefer architects to concern themselves with the component parts associated with any given building type for that type of building to exist at all. Implicit within this claim, is an overarching supposition that Plato promotes a belief in Forms corresponding to various types of buildings. Such claims can be made because architects, while never addressed directly, are nonetheless members of Plato's broader audience. Specifically architects — along with painters, weavers, embroiderers and other manufacturers of creative and constructive art — are not banned from Plato's ideal republic as poets are. However, their admission comes with a proviso; in *The Republic* (401b) all of these discipline areas are prevented from “portraying bad character, ill-discipline, meanness, or ugliness in pictures of living things, in sculpture, architecture, or any work of art”.<sup>26</sup> Favourable qualities in architecture are the same as those mentioned with respect to music in the discussion that surrounds the above quotation. That discussion bans musical instruments which have panharmonic scales and instead promotes self restraint and simplicity. Due primarily to the influence of St. Augustine's *De musica*,<sup>27</sup> this particular thought of Plato's is one which has taken root in architecture, where it has underpinned the use

of musically based proportions — namely the octave, fifth and fourth — in the architecture of various periods.

Since Plato speaks highly of craftsmen and because he includes architecture in his list of discipline areas that can have a positive influence on the tastes and morality of his republic's citizens, he would seem to hold architects in relatively high esteem. A passage from *Philebus*, which is a later dialogue, is worth noting here. As in the previous passage from *The Republic*, Plato's *Philebus* discusses architecture and music within the same context, but where the earlier dialogue merely lists architecture among other disciplines which should emulate the qualities of good music, in the later dialogue, architecture emerges as a far superior medium.

Music, for instance, is full of this empiricism; for sounds are harmonised, not by measure, but by skilful conjecture; the music of the flute is always trying to guess the pitch of each vibrating note, and is therefore mixed up with much that is doubtful and has little which is certain.

[...]

The art of the builder, on the other hand, which uses a number of measures and instruments, attains by their help to a greater degree of accuracy than the other arts.<sup>28</sup>

Although the theory of Forms cannot be construed as the beginning of a theory of architecture, Plato does invite a dialectic to occur between the field of architecture and his philosophy. Plato's ideal republic includes architects within its population and his hope is that buildings exhibiting such qualities as self restraint and simplicity would contribute to the political stability and moral fibre of the community. For this reason it is appropriate to extend certain principles from *The Republic* to the field of architecture, to speculate and make claims, in order that such a dialectic may occur.

## Treatment of Source Material

It will be noted that in the aforementioned hypothesis for this dissertation, primacy is given to Kahn's "form and design" theory — that is, his *espoused* theory — as recorded in his article, "Form and Design". Accordingly, this dissertation is most concerned with Kahn's written and spoken theory and the extent to which that theory can be aligned with themes in *The Republic*. Within this context, Kahn's practice of architecture is given secondary consideration. This decision stems from the fact that when Jencks, Norberg-Schulz, Burton, Scully, Brownlee, De Long, Auer, Gast and Danto compare Kahn to Plato, they do so with reference to his theory, not his practice. It should also be added that, significant as his works are, Kahn's sustained influence upon architectural thinking is also attributable to his personal charisma and to some memorable theoretical statements. Contemplating what a building wants to be, asking a brick if it would prefer an arch rather than a lintel, the taxonomy of "servant" and "served" space — such poetic notions as these have, according to Barbara Flanagan, become today's gospel for many architects.<sup>29</sup> Given the influence of Kahn's words, it is fitting that his espoused design theory be made a subject for study in its own right.

For the purposes of this dissertation it is also helpful that Kahn's "form and design" theory is presented as a text, a published article, of which Kahn is the sole author; indeed Kahn labours over the production of this statement, with a particular concern for the use of upper-case letters and italics. The only other statement of Kahn's to receive such attention is his 1955 text titled "Order Is",<sup>30</sup> but by the 1960s this would be superseded by his article "Form and Design".

The focus here on Kahn's theory before his practice can be contrasted with scholarship which interprets Kahn's buildings without reference to his public statements about them. Valuable insights have been made by historians who interpret Kahn's buildings in terms of works by figures such as Lewis Carroll<sup>31</sup> and the poet e.e. cummings,<sup>32</sup> even though Kahn does not mention these figures in his

lectures. Another writer compares Kahn's Trenton Bath House to shower blocks used by Nazis during the holocaust, although Nazi shower blocks can in no sense be seen as a causal influence on Kahn.<sup>33</sup> One of the most valuable aspects of Randy Swanson's Ph.D. thesis "Art and Science in Transition: Four Laboratory Designs of Louis I. Kahn Considered as Mediative Representation",<sup>34</sup> rests with the author's decision to separate Kahn's rhetoric from his practice and instead focus on events surrounding the design of particular buildings. The critical difference between Swanson's work and the present study, is that Swanson's dissertation illuminates Kahn's practice, while the present study seeks to cast light on Kahn's theory.

As this study is concerned with interpreting texts which express Kahn's and Plato's philosophies, essential principles of poststructuralist textual analysis will guide the present work. Hence this dissertation does not purport to know Kahn's or Plato's thoughts, nor does it claim to present the only possible interpretations of their texts.

It is recognised that using a text from the fifth-century B.C. to interpret a text from 1961, is in essence an anachronistic undertaking. It is one thing to say that Kahn's aforementioned reference to Socrates connects his text to Plato, but if Kahn's intentions parallel Plato's in other ways, then this must surely be a matter of coincidence and it would be anachronistic to interpret Kahn's text in terms of Plato's. Anachronisms are usually held in a pejorative light, but they needn't be thought of as errors. In his essay "Twisting the Separatrix"<sup>35</sup> Jeffrey Kipnis views anachronistic coincidences in a positive light, as though they were outcomes of a law, the law of *ana*, which is invoked by Plato's use of an analogy to describe the place where Forms and their earthly participants come together, a place which at once awaits the meeting of Forms and particulars, while its own existence is shrouded with uncertainty and depends on such meetings occurring in the first place.<sup>36</sup> For Kipnis, it follows naturally that *anachronistic* and *analogous* coincidences should arise between Jacques Derrida's and Peter Eisenman's collaboration on *Choral Works*, and Plato's *Timaeus*. Just as the movement of

receptacle space, as Plato describes it, anachronistically prefigures the Demiurge's setting of the universe into motion, and as Plato anachronistically describes the receptacle using an analogy before he has even defined the receptacle's nature, Kipnis argues that the law of *ana* determines that Plato's *Timaeus* would prefigure Derrida's and Eisenman's collaboration. Kipnis describes an uncanny resemblance between their meetings during the 1980s and the meetings of Plato's interlocutors. Their task as designers was to bring ideas into physical existence, which is precisely the phenomenon which Plato's dialogue accounts for. Additionally, the *Timaeus* and *Choral Works* were both to be instalments in a trilogy. By identifying these and many other coincidences, Kipnis demonstrates a role for anachronism in architectural hermeneutics which has its roots in Plato. Various coincidences between Kahn's and Plato's texts which are identified within this dissertation can be viewed in terms of Kipnis' argument.

In Kahn's case, the word "text" in this dissertation refers specifically to his article titled "Form and Design". Other items constituting the total body of literature relating to Kahn include extant records of his public statements, both written and verbal, the testimonies of his personal acquaintances and other archival material. Within the current context, Plato's "text" specifically refers to *The Republic*. The total body of literature pertaining to Plato includes commentaries on his work, as well as all of his other dialogues, with the possible addition of Aristotle's accounts of Plato, which many Plato scholars consider when interpreting Plato. The literature pertaining to Kahn and Plato is treated in the following manner.

Any attempt to interpret Plato, in this case how his philosophy might relate to architecture, is complicated by three factors. Firstly, as the authors of virtually every Plato commentary hasten to explain, Plato never states his own views directly, but always speaks through a protagonist. This leaves open the possibility that certain passages from his dialogues have an ironical tone. Secondly, it is recognised that Plato's philosophy evolves from one dialogue to the next. Thirdly, there are almost as many interpretations of Plato's statements as there are Plato scholars. These



factors give rise to so many permutations that, having regard for certain architectural questions, multiple responses can be derived from a reading of Plato. The present work is constrained not only by length, but by scope — it is a work of architectural history not philosophy — and so all of these complexities cannot possibly be explored. Rather, discussion of Plato is generally guided by mainstream interpretations of his texts.

Given that Plato wrote many dialogues, the decision to make *The Republic* the primary focus of this dissertation also needs some explanation. It is claimed that *The Republic* has been read by more people alive today than any other work of philosophy.<sup>37</sup> In 2002, *The Republic* was also voted by a panel of eminent philosophers to be the single most important philosophical treatise of all time, due to the breadth of philosophical issues it addresses.<sup>38</sup> With regard to Plato's general importance, no introduction such as this could pass without mention of Alfred Whitehead, who treats the entire Western philosophical tradition as a series of footnotes to Plato.<sup>39</sup> Therefore, the various parables concerning a dividing line, a cave and a bed maker which are contained within *The Republic*, as well as the dialogue's various appeals to the Forms, themselves have a singular historical significance, making this dialogue particularly worthy of study. Also, in the interest of focusing the present study to a point where useful insights can be gained, a study comparing two texts — "Form and Design" and *The Republic* — has greater potential to achieve meaningful results than a comparison between the entire philosophical oeuvres of two figures, whose writings each spanned a lifetime. While *The Republic* is only one of many dialogues written by Plato, it nonetheless embodies many of the notions associated with Platonic philosophy.

Compared to *The Republic*, interpretation of Kahn's text by latter day scholars remains far from comprehensive. Norberg-Schulz's remark will be recalled, that in order to be made generally useful, Kahn's design philosophy needs to be interpreted and developed.<sup>40</sup> Marshall Meyers, a former associate of Kahn's, offers an explanation for the incomplete nature of Kahn's theory. Meyers notes Kahn's

ignorance regarding the origins of his ideas and his inability to place his own design philosophy within a broader historical context.<sup>41</sup> Unlike Plato, Kahn is either incapable of, or unwilling to outline, a cohesive metaphysical system.

Source material pertaining to Kahn's espoused theory can be separated into two categories: records of his public statements and records of possible influences on his theory. With respect to his public statements, this dissertation adopts a dispensational approach. It is assumed that Kahn's abandonment of his "Order" thesis during the early 1950s, in preference for the dualistic concepts of "measurable and unmeasurable", "law and rule", "form and design" and "silence and light", reflects a gradual shift in his espoused metaphysics. According to this hypothesis, the concept of "Order" is concerned with universal patterns which permeate the phenomenal world, nature and architecture alike, while his later couplings consciously delineate between that which is phenomenal and that which is transcendent. Such an evolution in Kahn's theory is also recognised by Tadanao Maeda, who describes Kahn's later terms as being "more thoughtful and meaningful".<sup>42</sup> Another principle guiding the treatment of Kahn's public statements is that emphasis is given to views which Kahn repeats regularly.

The treatment here of records relating to Kahn's influences is loosely modelled on Reyner Banham's *Theory and Design in the First Machine Age*.<sup>43</sup> In this dissertation a plausible reading of Kahn's philosophy is informed by what Banham terms predisposing causes. Following Banham's example, in this dissertation the greatest weight is given to predisposing causes that are proximate and timely. For example, Kahn's announcement of his "form and design" theory in 1960 is primarily linked to events and meetings of the late 1950s, while earlier events are seen for their preparatory role.

Given that Kahn, by his own confession, has no research tendencies<sup>44</sup> and is claimed by his associates to learn verbally through personal contacts,<sup>45</sup> this dissertation also considers individuals within Kahn's milieu as potential agents of influence on his philosophy. Through Alessandra Latour's book, *Louis I. Kahn:*

*l'uomo, il maestro*,<sup>46</sup> and published interviews which have been conducted by other Kahn scholars,<sup>47</sup> many of Kahn's acquaintances have recorded their recollections of him. Further to this, certain associates of Kahn's have documented their own recollections. These include Balkrishna Doshi,<sup>48</sup> Romaldo Giurgola,<sup>49</sup> William Huff,<sup>50</sup> August Komendant,<sup>51</sup> John Lobell,<sup>52</sup> Vincent Scully,<sup>53</sup> Alexandra Tyng<sup>54</sup> and Anne Tyng.<sup>55</sup> Communication between Kahn's associates and the current author supplements these sources. However, it should be noted that the recollections of individuals often betray idiosyncratic points of view and for this reason personal reminiscences are viewed as less authoritative in this dissertation. Finally, other historians of Kahn's work and theory provide one more source, since much of the scholarship thus far directed towards Kahn's career attempts to identify the formative influences on his theory. While the focus of the present argument differs slightly from that of other historical works on Kahn (the agendas of which do not include Platonism) it is intended that in addressing the aforementioned research hypothesis this dissertation will build upon and complement extant scholarship in this field.

Since this dissertation aims primarily to analyse texts, then, of the two categories of source material pertaining to Kahn's espoused theory, records of his public statements are of the greatest pertinence to this work. Although knowledge of Kahn's influences develops an appreciation of his public statements, it is his statements, and his "Form and Design" article specifically, which, ultimately this dissertation compares with *The Republic*.

The relevance of Kahn's practice of architecture to the present study is that it has the potential to illuminate his theory. Kahn's practical application of his "form and design" theory is viewed through his development of a design for the First Unitarian Church and School in Rochester. It is recognised that the practice of architecture is never the teleological extension of an accompanying theory. However, this dissertation does not go so far as to treat Kahn's theory as a totally separate endeavour from his practice, as Manfredo Tafuri might advocate.<sup>56</sup> Truer

for Kahn is Paul-Alan Johnson's definition of theory as "design talk"<sup>57</sup> which mediates between architects and their public and between architects and their buildings. While the phrase "design talk" does to some extent understate Kahn's endeavour, the intimate relationship which Johnson sees between theory and practice is applicable to the reading of Kahn's theory. Jeffrey Kipnis' definition of architectural theory also holds true for Kahn, since Kahn's theory can be seen as the overruling "morality of [his] design process, a gaining of permission for some forms, surfaces, and materials, a prohibition against others. In terms of design, it is therefore nothing other than and nothing less than the design process itself".<sup>58</sup> Although there are instances where Kahn's espoused theory postdates its associated design actions his theoretical statements remain an earnest attempt by him to explain his personal position. Even Ed Levin, who urges readers of Kahn not to accept *prima facie* that architects "mean what they say and say what they mean",<sup>59</sup> acknowledges that "[t]o read Kahn on the subject of his own work is to hear a very genuine voice".<sup>60</sup> The view taken here, that Kahn's theory and practice are related endeavours, finds support from David Brownlee, who writes that

[Kahn] toiled over the making of words with the same indefatigable energy that he devoted to architecture, crossing out and rubbing out and remaking a phrase or a plan. If, after all this labour, his words had failed to elevate and illuminate his subject, he might have been justly accused of succumbing to a cantankerous mysticism. And if his architectural creativity had faltered in his last years, it could have been said that he was preaching what he could not perform. But his words were eloquent, and his architecture was ever more profound.<sup>61</sup>

The precise degree to which Kahn's theory is method, rhetoric, or simply myth-making cannot be known. What can be said is that some relationship exists between his theory and his practice and for this reason the consideration of an example of his built work is essential to the understanding of his theory.

Source material relating to the expression of Kahn's theory through his work includes working drawings held in the Kahn Collection, his extant sketches (as

published by Garland Press<sup>62</sup>), and his buildings. Kahn's working drawings are a particularly useful resource because working drawings reveal aspects of buildings not visibly apparent and record an architect's final and legally binding intentions. In contrast Kahn's sketches are treated with some caution following Anne Tyng's contention that Kahn's preliminary sketches are useless in divining Kahn's intentions, since "Lou was always changing his mind".<sup>63</sup> Michael Benedikt's seminal work, *Deconstructing the Kimbell: An Essay on Meaning and Architecture*,<sup>64</sup> provides a model for this dissertation's treatment of Kahn's built works. In Benedikt's study, as in this one, plausible interpretations or readings of a building are offered. A salient feature of Benedikt's study is the consideration of those oppositions which exist between design options which Kahn chooses and those he discards, in order to throw greater light on his chosen options. Interpretations of Kahn's buildings are supported by the reviews that have been written about his works.<sup>65</sup> While a few reviews of Kahn's buildings wax lyrical with little scholarly content, the subjective impressions of various commentators provide some insight into Kahn's design intentions.<sup>66</sup>

## **Terminology**

Throughout this dissertation the word **Form** (capitalised) refers to Plato's Forms or Ideas. The word is used according to its classical definition — discussed in greater detail below — whereby particular things are viewed as poor copies of their corresponding Forms. Forms by this definition can be described as autonomous, atemporal and transcendent.

A Form might also be referred to as a **Platonic Form**, but within this dissertation this term is not used to describe simple solids such as cubes or spheres, which are here referred to as Phileban solids. Where, for example, Stephen Greenburg refers to the "platonic form" of Kahn's Philips Exeter Library,<sup>67</sup> which is almost cubic, the present dissertation would describe that library as resembling a

Phileban solid.

In accordance with a convention used in much of the literature concerning Plato, specific Platonic Forms are italicised and capitalised, as with the following examples: *Justice Itself* and *Circularity Itself*. To emphasise the uniqueness of Forms corresponding to material objects, the word “*The*” is added, as in *The House Itself* or *The Bed Itself*.

The word “**form**” (within inverted commas and not capitalised) will refer to Louis Kahn’s concept of “form”. It will be seen in the following chapter that Kahn ascribes his own meaning to this term and that its use in his vocabulary changes during 1960. Kahn’s post-1960 use of this term differs from that of his Modernist contemporaries, who typically use the word form to refer to a building’s three dimensional shape. Whether or not Kahn’s post-1960 use of this word is comparable to the Platonic definition will be investigated. At the beginning of a sentence, “[**F**]orm” will be used to refer to Kahn’s concept. Reference within the text to Kahn’s article titled “Form and Design” follows normal conventions for the citation of minor works.

More general use of the word form is otherwise avoided. As it is often used in the phrase form follows function, for example, the word shape, or the phrase, three dimensional shape, will be substituted.

Where it appears within inverted commas, the word “**design**” is used as Kahn uses it, to describe the subjective and terrestrial process of translating a universal “form” into a material building on a specific site, through negotiation with clients, authorities and consultants. At the beginning of a sentence, “[**D**]esign” will be used. The phrase “**form and design**” combines each of Kahn’s terms.

Kahn’s neologisms and terms to which he ascribes a unique or peculiar meaning, are similarly shown within inverted commas. Examples include “Volume Zero”, “form” diagram, “unmeasurable”, “existence will”, “ena” and “enai”, to name but a few.

Objects or concepts that can be observed by way of the senses are referred to

in this dissertation as **particulars**. This use of the word particular as a noun rather than an adjective can be observed in the writings of David Ross.<sup>68</sup> Alternatively, particulars may be referred to as **sensible phenomena**.

This dissertation distinguishes between **Platonism** and **Neoplatonism**, and similarly between that which is **Platonic** and that which is **Neoplatonic**. Here the words Platonism and Platonic refer to a body of doctrines elicited directly from Plato's dialogues by scholars of those dialogues. The words Neoplatonism and Neoplatonic, meanwhile, refer to an approach to Plato's dialogues adopted by latter day figures associated with the so-called Neoplatonic tradition. Platonism and Neoplatonism have very different epistemological underpinnings. Platonism holds that nothing can be proved by observing things of this world, while Neoplatonism holds that sensory apprehension can in fact ratify various doctrines. B. Jowett describes Neoplatonism as an urge to seek connections between Plato's writings (primarily his *Timaeus*) and Scripture, which is actually opposed to the spirit of Plato. Jowett dismisses the Neoplatonists, describing them as "the feeble expression of an age which has lost its power not only of creating great works but of understanding them".<sup>69</sup>

Where ancient texts, such as Plato's dialogues, are not quoted directly but are referred to in general terms, reference will be via the systems of chapters and verses which have historically been applied to those texts. For example, a passage extending from the first verse of chapter 476 to the second verse of chapter 477 in *The Republic*, will be cited within the text as follows: *The Republic* (476a-477b).

The word **rationalism** is used in its philosophical sense, to denote that branch of philosophy concerned with drawing logical conclusions from knowledge known *a priori*. In architectural literature, the word rationalism is commonly used in an antithetical manner, in association with attempts to give the discipline a pseudoscientific, or empirical basis. John Lobell, in his book on Louis Kahn, provides a pertinent example of the term rationalism as it is often used by architectural writers. Lobell writes that "[r]ationalism is expressed in modern

architecture in two ways: first, through functionalism; and second, through abstract rectilinear shapes”.<sup>70</sup> For the purposes of this dissertation, the philosophical system which is rationalism should not be confused with definitions such as Lobell’s. What Lobell refers to as rationalism might best be described as orthogonal or rectilinear functionalism. Although he doesn’t state this directly, Lobell’s criticism may be pointed at Walter Gropius and designs which came out of his architectural program at Harvard. Such buildings may be rational in the sense that their designers rationalise, or strip bare, but epistemologically speaking, their designers start from empirical first principles, such as clients’ programs and particular site conditions. In philosophical terms functional design methodologies would be more accurately described as positivistic, rather than rationalistic.

As it is used in this study, the word rationalism is best described as the opposite of empiricism. Rationalism is an epistemological framework concerned with reason and innate knowledge of facts that are held to be self-evident, whereas empiricism relies on observations of the phenomenal world. The architectural theorist Geoffrey Broadbent uses the term rationalism in the manner adopted within this dissertation in his discussions of Renè Descartes, Quatramère de Quincy and Aldo Rossi.<sup>71</sup> The term is also used in its philosophical sense by the present author and Michael Ostwald in the introduction to a collection of readings related to the architectural movements known as Italian Rationalism and Neo-Rationalism.<sup>72</sup>

The word **mimesis** is used in this dissertation in two ways. The first kind of mimesis involves the copying of an ontologically higher model, or Form, into an ontologically lower manifestation of that Form in the phenomenal realm. This might be called **first generation mimesis**, or simply **good mimesis**, as Mihai Spariosu describes it.<sup>73</sup> Spariosu refers to its counterpart as **bad mimesis**. Bad mimesis is the subsequent copying of things already manifest without direct recourse to the Forms. In this dissertation bad mimesis will also be referred to as **second generation mimesis**.

Plato’s approach to mimesis can be understood by comparing his position



with Aristotle's. Both philosophers see artistic works as imitative representations which have a profound effect on their viewers. But where Plato is disdainful of any sort of mimesis whatsoever, Aristotle is moved to ask what distinguishes worthwhile kinds of mimesis from representations which corrupt. In *Poetics* (9:48), Aristotle describes tragedy □ which is comparable to painting or poetry in *The Republic* □ as a catalyst for the audience's own contemplation of truth, which in turn is directly embodied in the physical world of particular events. For Plato, who views the physical world as a shadow of the truth, depictions of that world are simply irrelevant.

The craftsman in the parable of the bed maker exemplifies Plato's conception of good mimesis. According to Plato's description, craftsmen look to the Forms when making useful artefacts, without recourse to anything known empirically. In Plato's example, artists who in turn copy beds to produce paintings of beds, are seen as exponents of bad mimesis. Describing this concept of first and second generation mimesis, Joseph Rykwert writes that "[w]hile the human craftsman turns 'the bed' into 'this oak double bed,' the painter makes 'this bed' into 'that certain double bed, seen in that certain light and from that certain angle'"<sup>74</sup>. Meanwhile, Rykwert's description of Classical columns provides an interesting example of what is here being referred to as bad mimesis. Rykwert describes Classical columns as being modelled on the human figure.<sup>75</sup> Columns, such as those Rykwert describes, would exemplify an abstract kind of bad mimesis. An empirically known particular, in this case the human body, is seen to be imitated, albeit in an abstract manner, into a stone column.

This dissertation adopts a limited Graeco-centric conception of **aesthetics**, in which only two theories of beauty are taken into account — Plato's and Aristotle's. According to the former, beauty is a transcendent concept or Form, hereafter referred to as *Beauty Itself*. According to the latter, an object's beauty is intrinsic to its material existence and there would be no such thing as beauty should all beautiful things be destroyed. The views of aestheticians after Aristotle are beyond the scope

of this dissertation.

The word **dualism** in this dissertation refers to the division established in Plato's dividing line illustration in *The Republic*,<sup>76</sup> between two classes of knowledge. Following Plato's lead, this dissertation describes the higher class as **intelligible** knowledge and the lower class as **sensible** knowledge. These can be seen to constitute two ontologically discrete realms, the intelligible realm and the sensible realm. According to Plato, the intelligible realm is beyond sensory perception, while the sensible realm similarly eludes the intellect.<sup>77</sup> The intelligible and sensible realms can also be respectively referred to as the realms of **Being** and **Becoming**. Numerous other couplings for these realms have been encountered in the literature pertaining to this topic. These include metempirical and empirical, intangible and tangible, *essentia* and *existentia*, spiritual and physical, Form and namesake, and finally, the one and the many. Other terms relating to the intelligible realm include transcendent, universal and otherworldly. Other terms relating to the sensible realm include corporeal, terrestrial, earthly, manifest and sublunar.

Finally, the author of this dissertation regrets the use of gendered language when quoting Kahn and Plato, and when re-using their terminology throughout the body of this dissertation. Such terms as mankind, philosopher King, craftsman or "he" (the architect or philosopher), are used so frequently by Kahn and Plato that to avoid such terms would be impossible and to qualify or amend every such instance would disrupt the flow of this work.

### **The First Unitarian Church in Rochester**

Kahn was chosen in 1954 from a number of eminent architects to design the First Unitarian Church and School in Rochester, New York. The other architects included Frank Lloyd Wright, Paul Rudolph, Carl Koch, Eero Saarinen and Walter Gropius. To some extent Kahn may have been chosen by default, since Wright and Saarinen declined the commission.<sup>78</sup>

Kahn took more than twenty months, from May 1959 until January 1961, to design the building. Given that this building is of a medium scale, this period may seem unusually long. However, almost a year was spent labouring over the design of a radially symmetrical building, despite his clients' repeated calls for a more modest, asymmetrical solution. His radially symmetrical schemes of this period feature a double height square sanctuary, encircled by an ambulatory, which in turn is encircled by a corridor, enclosed by three levels of classrooms. The outer walls of these classrooms give the whole building a square profile (Figure 1).



**Figure 1: First Unitarian Church and School, preliminary plan, 1959.**

Kahn's progress on this project was affected by his clients' unusual diligence. Fehmi Dogan and Craig Zimring argue that the congregation played a valuable role in shaping the final design. They state that the clients' contribution belies the

[c]onventional story, told by Kahn, [which] narrates triumph of a genius designer endowed with a "concept" before his first meeting with the client that guided the design process in an almost linear fashion.<sup>79</sup>

The congregation's internal correspondence, held in their own archive in Rochester, provides further evidence of their effect on Kahn's progress. While a committee was set up to liaise directly with Kahn, many in the congregation were preoccupied with the design of their new church. By November of 1959, so many members of the

congregation had written to Kahn directly with particular requests, that Kahn was asked to return such correspondence to the church building committee.<sup>80</sup> The building committee was inundated with letters from the congregation making requests or suggestions and was expected to pass these on to Kahn for consideration.<sup>81</sup> One member of the congregation went so far as to personally build a scale model of one of Kahn's designs which he used to conduct photometric studies of lux levels in the sanctuary.<sup>82</sup>

After March 1960, Kahn's proposals resembled the radially planned, yet asymmetrical profile of the church as it was built. Adopting the planning strategy, but not the symmetry of his earlier schemes, Kahn's final design features an off-square double height sanctuary, surrounded by corridors on two levels and two levels of class rooms. The outer walls of these classrooms give the building a rectilinear, though asymmetrical shape in plan (Figure 2).



**Figure 2: First Unitarian Church and School, final ground floor plan, 1960.**

The building displays many of the signature motifs associated with communal meeting spaces designed during the mature phase of Kahn's career. Typically, these buildings feature thick external walls (of load bearing brick or concrete), and a radial distribution of cellular spaces about a central meeting space which requires clerestory lighting. Kahn's first radial building is a modest poolside

changing pavilion in Trenton, New Jersey, designed in 1955. On a large scale, these principles are fully realised in his National Assembly Building in Dacca, designed between 1962 and 1973. Kahn's First Unitarian Church and School in Rochester can therefore be viewed as part of a progression in which he applies the principles first explored in Trenton to increasingly larger projects. Its radial planning strategy can also be viewed as the church's major functional shortcoming.

From the time of Kahn's first meeting with the congregation in Rochester he had insisted that the *raison d'être* for any Unitarian church, having an accompanying school, must stem from his understanding that Unitarian schools generate questions which their congregations then ruminate upon within their sanctuaries. This early assumption is the basis of Kahn's claim that no matter what shape the final church might take, it must feature a sanctuary encircled by class rooms. His first design proposal makes it clear that Kahn imagined Unitarian liturgy could literally be structured along these lines. His first plan encourages members of the school to walk around the sanctuary, entering or leaving it as they wish. Pupils of the school would even be encouraged to look down over the sanctuary from galleries above. However, Kahn's romantic and somewhat naïve vision of a Unitarian church in use did not match that of his clients. As Richard Forbes of the church building committee has explained to the present author, the members of the congregation did not like the suggestion that their church services could be disturbed by boisterous groups of children coming and going at will, or by laughter from the upper level galleries.<sup>83</sup> With his final scheme Kahn addresses these concerns. The upper level, housing the majority of the classrooms and the children's chapel, has no visual or acoustic connection to the sanctuary at all. The upper level spaces encircle the sanctuary, but the galleries of the first proposal are replaced by a blind corridor (Figure 3). The relationship between the school and the sanctuary is, for the most part, only a symbolic one, since neither space is apparent to the other.



**Figure 3: First Unitarian Church and School, corridor serving school, concealing the sanctuary behind the wall to left.**

This weakness in Kahn's scheme attracted severe criticism from sections of the Unitarian congregation in Rochester, who levelled their criticism at the church building committee. One member of the congregation, the attorney Judson Parsons, sums up the discontent of many in a letter to the building committee, dated 24 February, 1961.

Had they [the congregation] been told: "Yes, this building has just about twice the usual percentage of halls. Half of them are unnecessary and they are expensive, and to surround the auditorium with them will shut out all natural light and make it necessary to build expensive, large, cumbersome towers on the roof to filter the light and channel some of it back into the auditorium", some people who voted for the plan might have done otherwise[...].

You who were then on the committee were our representatives to obtain a plan from Mr. Kahn and to report its advantages and disadvantages to us so that we might make an intelligent decision. You were not Mr. Kahn's representatives [...].

As it is, if this were a purely business affair, people could almost ask for their money back.<sup>84</sup>

If the resultant surplus of darkened corridor space calls Kahn's early assumption into question, later adaptations to the building confirm that his planning strategy bore no relation to the congregation's long term needs. In 1964, just two years after the completion of his centralised scheme, Kahn was commissioned to design an extension to the church. According to Richard Forbes of the church building committee, this was the extension which was never meant to happen, and Kahn had been explicitly briefed during the design of the first section that the church would require no additional space in the future.<sup>85</sup> However, the physical presence of their new church led to a dramatic rise in attendance in the years immediately following its construction.<sup>86</sup> Where Kahn had originally insisted that the sanctuary must occupy the physical centre of a concentric plan, today the church plan resembles a dumbbell. The original entrance space, which Kahn had intended to be peripheral, now occupies the physical centre of a much larger complex, having the sanctuary to its west and Kahn's later extension to its east (Figures 4 and 5). Where they have been able to, the congregation have also relocated facilities associated with the school, such as the children's chapel and administration facilities, into the eastern extension, away from the sanctuary.



**Figure 4: First Unitarian Church and School, northern side, circa 1963, showing entrance to the left of the church.**

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Auchmuty Library

**Figure 5: First Unitarian Church and School, present view of northern side showing extension to the left of the original entrance (behind trees) with the original church to the far right.**

Despite its programmatic inconsistencies, the lasting appeal of Kahn's Unitarian church is its fortress-like exterior and the serene quality of daylight entering the sanctuary within. Kahn dramatises the monumental presence of this edifice by placing the entrance such that it cannot be seen by passing cars. From Winton Road, viewers are faced only with an enigmatic pattern of deep reveals and window hoods (Figures 6 and 7).



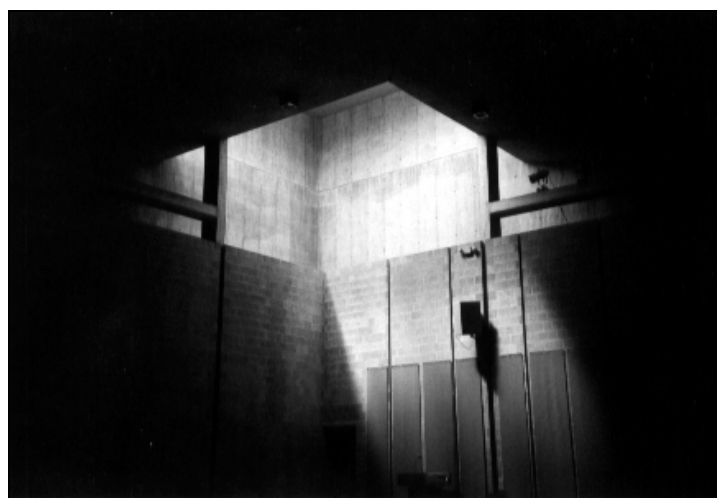
**Figure 6: First Unitarian Church and School, north west view from Winton Road.**





**Figure 7: First Unitarian Church and School, south west view from Winton Road.**

Having ringed the sanctuary with the school and ancillary spaces, Kahn could only provide daylight to this space from above. As with later master works such as the Kimbell Art Museum in Fort Worth Texas and The National Assembly in Dacca, daylight enters the space in such a way as to illuminate internal surfaces without allowing viewers any direct views of the sky. Since the clerestory windows are concealed, viewers are presented with a subdued play of natural light across the textured concrete and blockwork surfaces of the sanctuary (Figure 8).



**Figure 8: First Unitarian Church and School, north west light tower.**

## Outline with Summaries

Three main themes □ metaphysics, participation and edification □ are common to both *The Republic* and “Form and Design” and these will be covered separately in the following three chapters. Each chapter looks at how the theme in question is introduced in Kahn’s text, then interprets Kahn’s treatment of that theme in terms of *The Republic*.

Chapter 3 addresses the theme of metaphysics. It first asks why, at the beginning of “Form and Design”, Kahn suggests that dreams cannot be drawn. In terms of *The Republic*, Kahn’s distinction between dreams and drawings can be interpreted as a reflection of a fundamentally dualistic world view which in turn underpins many of Kahn’s theoretical statements. This alternative reading of Kahn’s philosophy compares favourably with Kahn’s religious interests which, it is argued, extend to Christianity. Hence Kahn’s claim that “forms” are realised in a heightened religious state, can be viewed in the light of Christian Platonism which distinguishes between two realms. Kahn’s text is then contextualised by interpreting the dualism to which it alludes as a response to circumstances surrounding Kahn’s design of the First Unitarian Church and School in Rochester.

The next passages from Kahn’s text which raise metaphysical questions also require some explanation, since a Platonic interpretation of Kahn’s metaphysics departs from previous interpretations by Stanford Anderson and Christian Norberg-Schulz. Where Anderson argues that Kahn’s “form” diagram for Rochester is no more than a hypothetical appeal,<sup>87</sup> this dissertation presents an alternative interpretation, according to which Kahn describes his own “form” as the only valid approach to any Unitarian Church and School. Where Norberg-Schulz argues that Kahn’s parable of the first school in “Form and Design” points to an existential gathering of people beneath a tree,<sup>88</sup> the present study argues that Kahn’s parable may also point to a transcendent notion of school, preceding that mythical gathering.

This idea is developed to take account of Kahn's admiration of visual artists.

Later in his text, Kahn claims that his Salk Institute has a "programme of spaces without precedence".<sup>89</sup> This raises the contentious issue of precedents in Kahn's work. Here this issue is addressed in terms of Plato's parable of the bed maker in Book 10 of *The Republic*. It is argued that Kahn is more like the craftsman than the artist in Plato's parable, since Kahn denies looking to extant artefacts when conceiving "forms".

The Platonic principles of first and second generation mimesis are also used to interpret Kahn's statements regarding nature, a traditional source of aesthetic inspiration for architects. Through a Platonic interpretation of Kahn's seemingly contradictory statements about nature, it is proposed that on those rare occasions when he does speak of copying nature, he is referring to nature's underlying principles and not nature as it appears to the senses.

Chapter 4 interprets the relationship which Kahn describes between his "designs" □ or particular buildings □ and their corresponding "forms", with reference to Plato's doctrine of participation. As it applies to architecture, this doctrine has been explored previously by theorists including Hermann Muthesius, Quatramère de Quincy, Rafael Moneo and Paul-Alan Johnson. Between Kahn's and Plato's theories, broad similarities can be easily established. "Form and Design" presents buildings as single examples of universal "forms" in much the same way as *The Republic* presents particular members of any class as participants in Forms.

Much of Chapter 4 is devoted to questions arising from this comparison. For example, how can Plato's philosophy, with its ascetic underpinnings, cast any light on a theory such as Kahn's which is directed towards the production of terrestrial artefacts? It is argued that *The Republic* is also aimed at the betterment of the physical world. Does Kahn depart from the spirit of Plato's doctrine by conceiving "forms" corresponding to modern building types or building elements such as exhaust ducts? It is argued that Plato's Form realm is populated by atemporal Forms corresponding to every nameable class of particular. If Plato's purely intelligible

realm has autonomy from things such as gravity and people, then how can Kahn's earthbound and corporeal buildings be thought of as participants in the Forms? They can in the same way as the craftsman's bed in *The Republic* participates in *The Bed Itself*, a Form which takes account of *Gravity Itself* and *The Human Itself*. Where "Form and Design" deviates from the spirit of Plato's text, is in its conception of a "form" which is not universal, but which is specific to Unitarian churches.

Chapter 4 also unearths alternative ways of approaching apparent discrepancies between Kahn's "form and design" theory and his practice of architecture, particularly his tendency to base buildings of various types on what appears to be the same concentric "form". From the standpoint of Kahn's espoused theory, the "forms" underlying his dormitories, churches, assemblies and other concentric buildings, need to be distinguished. It is hypothesised that for Kahn the "forms" corresponding to each of these types have different qualities ascribed to their nuclei, but that these qualities are not expressed architecturally. Meanwhile Kahn's practice of replicating planning strategies developed for earlier commissions of the same type agrees precisely with Plato's description of Forms as one, and particulars as many. This tendency of Kahn's is particularly evident in his exact replication of building elements, as though every common element in his oeuvre represents his discovery of an archetype or Form.

As well as buildings and building elements, "Form and Design" claims that whole cities should be based on a corresponding "form". This opens up a discussion of Kahn's and Plato's mutual belief in city life and their parallel approaches to urbanism.

Theories involving universals are flawed by a problem of infinite regress when the defining characteristics of a universal are shared with its participants, meaning that both the universal and its corresponding particulars participate in something still higher. In Chapter 4, consideration of this philosophical conundrum illuminates Kahn's "form and design" theory and the fact that, after Rochester, Kahn tends to present "forms" using verbal descriptions. Unlike diagrammatic

representations, descriptions of “forms” using words cannot be confused with the plans of buildings.

Nothing which is presented in Chapter 3 or Chapter 4 can be taken as proof that Kahn was a Platonising architect, either consciously or by coincidence. However, the general confluence between “Form and Design” and *The Republic* which these two chapters identify, opens hermeneutic possibilities which can be brought to the interpretation of Kahn’s buildings in the last of the three main chapters.

Chapter 5 examines those passages in “Form and Design” which are directed towards the aesthetic qualities of Kahn’s buildings and attempts to interpret them in terms of *The Republic*. In “Form and Design” Kahn describes his working process as one which takes an “unmeasurable” “form” and translates it according to material means yet, in the end, bestows completed buildings with an “unmeasurable” aura. His text outlines a number of his personal preferences and these suggest strategies for conferring such an aura on buildings.

It is argued that, of the strategies which Kahn does employ, none is likely to involve proportions since, in “Form and Design”, Kahn states that shape and dimension are merely matters of “design”. In another text Kahn states his preference for archaic buildings; he admires the buildings of Paestum, but dislikes the well proportioned buildings of the Parthenon.

From the standpoint of *The Republic*, the not-quite-square proportions, contradictory façade treatments and irregular rhythms of Kahn’s Unitarian Church in Rochester can be interpreted as prompts for purely intellectual activity. Without the aid of reason, visual apprehension of this building might only serve to aggravate viewers. Viewers need to think critically about the building in order to understand it. In *The Republic* (523) Plato argues that the sight of one’s own fingers elevates the mind in a very similar way, forcing viewers to think about each finger’s relative and absolute size.

In “Form and Design” Kahn connects the numinous quality of his Unitarian

Church to the shape defining character of daylight on its interior surfaces. In Chapter 5 it is argued that Kahn's approach to sunlight can be interpreted in terms of an analogy in *The Republic* (508) between sunlight, which allows particular things to be seen, and *The Good*, which illuminates Forms so that they can be intellected.

If, as Kahn claims in "Form and Design", his buildings evoke "unmeasurable" qualities, then his buildings would have something in common with printed and bound copies of *The Republic*. Given Plato's emphasis on the intelligible realm, it is easy to forget that copies of Plato's text are in fact sensible phenomena and that these books simply steer the reader's attention towards the Forms. Working from this observation, Chapter 5 considers how Kahn's text and its allied buildings might also reflect qualities of Plato's Forms. It is argued that attention-seizing geometrical figures in some of Kahn's buildings could lead viewers to contemplate plane and solid geometry. It is also argued that Kahn's buildings reflect some of the abstract qualities of the Forms in which they participate, such as their autonomy, their immutability, their stasis and the forms' ability to impress themselves upon space, also known as Chóra. Kahn's buildings depart from the spirit of *The Republic* insofar as superficial references to historical precedents may cause viewers to ponder such things as castles or Greek ruins rather than the Forms.

Finally, Chapter 5 examines Kahn's text and associated buildings in terms of *The Republic's* prohibitions affecting architecture. These involve simulacrum, distortions in deference to perspective, as well as complex rhythms and harmonies.

The interpretations which are unearthed in these three chapters should be viewed in the context of Kahn's shifting and pluralistic theory and his way of working. None of these interpretations exclude other, perhaps contradictory ones. In "Form and Design" Kahn reflects on how he produces architecture. His tone is earnest and the theory he espouses has a strong relationship to what he does as an architect, but his text is not a manifesto, much less a body of rules which he would always obey. However, by taking Kahn's espoused theory as a starting point, and by developing it along the lines of an established philosophical system, this dissertation

casts a new light on Kahn. Most significantly, this alternative way of viewing Kahn is in the spirit of his espoused design philosophy, and develops the many possible connections proposed by other scholars between Kahn and Plato which have not been addressed previously.