

## **Chapter 4: Participation**

## Kahn and Platonic Participation

In “Form and Design”, Kahn’s discussion of the young architect’s dream, and of religion and philosophy preparing the mind for realisations is followed by his introduction to the title concepts of his text. He writes that the realisation process

is the beginning of Form. Form encompasses a harmony of systems, a sense of Order and that which characterizes one existence from another. Form has no shape or dimension. For example, in the differentiation of a spoon from spoon, spoon characterizes a form having two inseparable parts, the handle and the bowl. A spoon implies a specific design made of silver or wood, big or little, shallow or deep. Form is "what". Design is "how". Form is impersonal. Design belongs to the designer. Design is a circumstantial act, how much money there is available, the site, the client, the extent of knowledge. Form has nothing to do with circumstantial conditions. In architecture, it characterizes a harmony of spaces good for a certain activity of man.<sup>1</sup>

Seen in relation to Platonic philosophy, Kahn’s analogy exemplifies what Plato scholars commonly refer to as participation. Many Plato scholars agree that the word participation most accurately describes the relationship posited in middle period dialogues such as *The Republic* between particulars and their corresponding Forms, in which the former participate. Linked to his concept of participation is Plato’s fundamental premise in *The Republic* (352d-3553a) that for every class of particular there is a specific function, or *ergon*, that such particulars alone can do. His examples are that eyes alone can see, ears alone can hear and that pruning knives are better at cutting vine shoots than chisels or carving knives.

Employing a popular kind of explanation, Henry Veatch illustrates Plato’s concept of participation by comparing a triangle drawn in the sand, with the idea of triangularity.<sup>2</sup> According to Plato, the latter would be a Form, *The Triangle Itself*. As a Form, it is beyond sensory perception and is exclusively intelligible. Meanwhile, the triangle in the sand is unintelligible and exclusively sensible. It and the many other triangular things that can be found in the phenomenal world would participate

in *The Triangle Itself*. When illustrating his theory of “form and design” to a broad television audience, it is perhaps telling that Kahn also uses the example of an elementary geometrical construct, asking his audience to compare a mental construct of a circle with a particular circle drawn on a piece of paper.<sup>3</sup> The former, he explains, is like a “form”, while the latter is comparable to a “design”.

On a number of occasions in this dissertation, the concept of participation, or of things partaking of Forms, has been mentioned in passing. Where the previous chapter was concerned with the metaphysical status of Kahn’s “forms”, this chapter specifically examines the relationship between Kahn’s “forms” and what might be called their participants, that is, Kahn’s buildings.

As with Kahn’s metaphysics, which is open to Jungian and Heideggarian interpretations, the participation of Kahn’s buildings in their respective “forms” is open to alternative readings which cannot be fully explored within the limitations of the present inquiry. For example, Charles Peirce’s concept of “thirdness” may provide a useful tool to explain the relationship which Kahn articulates between containers and arms; when put together in a certain way, a container and an arm can be thought to represent a third concept, spoon.<sup>4</sup> However, within this chapter, interpretations of the theme of participation in Kahn’s text are built on the arguments developed previously in this work.

As is the case with any aspect of Platonism, various discrepancies and debates could be allowed to complicate the seemingly straightforward doctrine of participation. For example, in later dialogues Plato questions how earthly things can participate in transcendent Forms at all.<sup>5</sup> Also, the notion which Plato expresses in his middle period dialogues that particulars participate in Forms is itself a contested issue. For example, Charles Bigger argues that “participation be understood, not as the relation between particulars and [F]orms or universals, but between events and their determinate structures”.<sup>6</sup> For the purposes of interpreting “Form and Design” in terms of *The Republic*, a simple definition of Platonic participation is generally more useful — except perhaps when it comes to addressing the so-called problem of the

third man which is discussed at the end of this chapter. Furthermore, a simple definition of Platonic participation embraces the concept to the extent that it is developed in *The Republic*.

## **Platonic Participation and Architecture**

Within the literature pertaining to Platonism, the concept of participation is elementary. However, this is not the case within architectural discourse, since many design theories otherwise associated with Platonism do not necessarily treat buildings as participants in corresponding Forms. The Platonic concept of participation needs to be understood apart from that tradition.

In Plato's illustration of the Bed Maker, a craftsman bases the design of a particular bed on the *The Bed Itself*. In this parable Plato states that there is only one real bed anywhere, *The Bed Itself*, which resides in a transcendent realm of archetypal Forms. While a particular bed may also be an instance of, say, *Stability Itself*, all so-called beds are primarily instances of *The Bed Itself*. In the context of that parable, it would seem ridiculous to base the design of a bed on, say, *The Spade Itself*, but many architectural movements otherwise influenced by Platonism can be seen to have made similar mismatches. For example, Palladio is claimed (by Rudolf Wittkower<sup>7</sup>), to have modelled churches on the earth's shape, but not on a transcendent model specific to churches. Wittkower points to the following passage from Plato's *Timaeus* as Palladio's inspiration.

Therefore he [the God] turned it [the earth] into a rounded spherical shape, with the extremes equidistant in all directions from the centre, a figure that has the greatest degree of completeness and uniformity, as he judged uniformity to be incalculably superior to its opposite.<sup>8</sup>

Such coincidences as the Vitruvian figure, depicting a man inscribed within a circle and a square,<sup>9</sup> only confirmed the belief of Renaissance architects that God had encoded divine attributes throughout creation, from the shape of the globe, to the

human figure. This inscription of the macrocosm within the microcosm, they believed, should in turn be found in churches. Wittkower concludes that the “Renaissance conception of the perfect church [having radial symmetry and pure geometry] is rooted in their understanding of Plato’s cosmology”.<sup>10</sup> Because Wittkower’s aim is simply to trace Renaissance principles to their sources in Plato’s *Timaeus*, he does not consider the influence of Plato’s doctrine of Forms on Renaissance thinking. If, as Wittkower claims, Renaissance architects only had access to one of Plato’s dialogues, his *Timaeus*, then architects such as Palladio and Alberti cannot be expected to have been influenced by Plato’s views regarding the Forms, since the theory of Forms is peripheral to that dialogue. In the present context though, it must be made clear that modelling churches on the supposed shape of the cosmos is inconsistent with Plato’s doctrine of participation as it relates to human production. Following the example of the parable of the bed maker in *The Republic*, churches should participate most strongly in *The Church Itself*, as beds primarily participate in *The Bed Itself*.

Rudolf Schwarz provides another example with which to delineate the thrust of *The Republic* from that of the Neoplatonic tradition. The non-Platonic tendency to model churches on transcendent models *other* than *The Church Itself* can be seen in Schwarz’s analysis of the Gothic church plan type.<sup>11</sup> Schwarz sees the traditional church plan type as being modelled on God’s shape, in much the same manner as God made Adam in his own image.<sup>12</sup> Thinking within the Christian Platonic tradition, Schwarz quite naturally sees the plan of Gothic churches as the material manifestation of a transcendent ideal, in this case, God’s shape. While the shape of God may be a suitable model for human beings, it would be inconsistent with Plato’s instructions to craftsmen to model buildings, in this case churches, on the shape of God. Neither does the conventional interpretation of the cruciform church plan, as having evolved from Roman basilicas, satisfy the principles of Platonic participation.<sup>13</sup>

In the ancient world, very few, if any, buildings can be positively identified

as having been modelled on their designer's conception of a Platonic Form. One possible example is Hagia Sophia,<sup>14</sup> since it was designed in an era heavily influenced by Neoplatonism generally,<sup>15</sup> and also because it was promoted as a building without precedent<sup>16</sup> and has since been copied many times, as though it were based on the discovery of an ideal church type. Its hovering dome has been interpreted as a conception of heaven on earth,<sup>17</sup> or "as a metaphor of the divine realm",<sup>18</sup> that is, as the manifestation of something transcendent here on earth. Importantly, in a mosaic above the main door of Hagia Sophia, Justinian is seen either receiving from (or offering to), the Virgin and Child, a simplified representation of the church which he carries in his hands (Figure 18). By either reading, the mosaic depicts a heavenly exchange where the church lies part way between a transcendent realm and earth. In the hands of the virgin and child, a perfect model, or Form is seen. In Justinian's hands, the church becomes an avatar.

Where theorists of the Neoplatonic tradition do not generally treat buildings as instances of corresponding Forms, some directions in more recent architectural discourse do resemble Plato's notion of participation. For example, in his book, *Theory and Design in the First Machine Age*, Reyner Banham identifies an aspect of Le Corbusier's theory which resembles the participation of particulars in corresponding Forms. Though not at first connected with Platonism, the theory of types is introduced through Hermann Muthesius, who champions both the "inmost essence"<sup>19</sup> of architecture and what he calls "pure Form".<sup>20</sup> When he was known as Charles Edouard Jeanneret, Le Corbusier had contact with Muthesius' ideas during a study trip to Germany around 1910. Banham argues that this led Le Corbusier to Platonise objects, "house, bottle, guitar etc.", in his Purist paintings.<sup>21</sup> Ultimately, Banham sees this attitude extended in Le Corbusier's veneration of mass-produced objects, which can be thought of as participants in corresponding Forms.

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**Figure 18: Justinian presents his church of Hagia Sophia (the Holy Wisdom) to the Virgin and Child, a detail from the mosaic above the main door of Hagia Sophia.**

A good appreciation of the Platonic concept of participation is demonstrated by Geoffrey Broadbent in his text *Emerging Concepts in Urban Space Design*.<sup>22</sup> Citing instances where Quatramère de Quincy describes individual types as concepts that can only be relayed in vague terms, or in rough sketch form, Broadbent identifies Quatramère's notion of type as "a rather fuzzy version of Plato's ideal [F]orm".<sup>23</sup> Meanwhile, what Quatramère terms a model can be copied literally in its every detail. In the language of Platonic philosophy, Quatramère's models participate in what he calls types. Broadbent traces this theory to Plato's parable of the bed maker in *The Republic*. There *The Bed Itself* serves as a type, and particular beds could be described, in Quatramère's terms, as models, the latter participating in the former. Confirming Broadbent's analysis, Sylvia Lavin argues that Quatramère made specific efforts to advance Plato's views regarding art and mimesis as expressed in *The Republic*.<sup>24</sup>

Reference to Quatramère's notion of type is frequently found under the heading of typology. While discourse under this heading resonates well with Plato's

notion of particulars participating in corresponding Forms,<sup>25</sup> discussions on the topic of typology often do not adequately differentiate between types with *a priori* validity, like Plato's Forms, and what Quatramère would describe as models. Models may carry cultural meanings, but they have no absolute validity beyond their historical associations.

The departure from a Platonic conception of type begins with Giulio Carlo Argan from whom recent discourse under the heading of typology inherits its metaphysical parameters. In his article, "On the Typology of Architecture", Argan provides an Aristotelian definition of the word type, according to which the existence of a type-class is "never formulated *a priori* but always deduced from a series of instances".<sup>26</sup> Argan identifies a class-type or a common "root form" through the observation of many similar buildings. Metaphysically higher Forms — Quatramère's types — do not figure at all within Argan's discussion.

When Aristotelian definitions of type are placed beside Platonic illustrations, further confusion is inevitable. In his introduction to the topic of typology, Alan Colquhoun pictures a craftsman fashioning a use item, such as a kitchen utensil, according to a mind's eye image, an image which is in turn universal, since it exists in the minds of those who would eventually use that utensil.<sup>27</sup> From a Platonic standpoint, this illustration, with its equivalencies to Plato's parable of the bed maker, contains the promise of a Platonic theory of types to follow. Ultimately though, Colquhoun promotes the use by architects of what Quatramère would term models. He promotes these based on their ability to communicate shared meanings, not universally, but within a given culture, like the words of a language.

By identifying what he terms *The Third Typology*,<sup>28</sup> Anthony Vidler opens the possibility for a wholly Platonic paradigm, one which does not appeal to nature or conceptions of a primitive hut as sources for second generation mimesis, as the Modern Movement and eighteenth-century rationalists had done. According to Vidler, the exponents of this new approach — Aldo Rossi and brothers Leon and Rob Krier — do not attempt to validate their work by copying nature. Rather, their



“columns, houses, and urban spaces, [...] refer only to their own nature as architectural elements”.<sup>29</sup> Yet in Vidler’s work, as in Argan’s, it appears that types are to be derived from the observation of many particular buildings, those found in extant European cities. From a Platonic standpoint, types of this kind are no more than historical accidents if they are not themselves modelled on Forms. Rossi employs the “ontology of the city” (to use Vidler’s phrase), not the ontology of the Form realm. His types share the metaphysical status of the sensible artifacts that are found in cities, which, according to Platonism, are objects of mere opinion.

Of those who address the topic of typology, it is most interesting within the context of the present dissertation to find that Rafael Moneo, in his article, “On Typology”, views “Louis Kahn’s search for origins [...] [as] a possible rebirth of Quatramère’s ideas”.<sup>30</sup> In other words, Kahn’s concept of “form” is synonymous with Quatramère’s concept of type. Seen in conjunction with the argument put forward by Sylvia Lavin, that Quatramère consciously adheres to Plato’s views regarding good and bad mimesis,<sup>31</sup> Moneo’s claim establishes a connection between Kahn and Plato, with Quatramère being the common link between these two figures. Aware of the fact that Kahn’s greatest influence is related to aspects of his work other than his fascination with ideal types, Moneo laments that Kahn’s view of “form” is “not necessarily present in the work of his followers”.<sup>32</sup> Within the present context, it is notable that writers on the topic of typology disregard the Platonic nuances of Quatramère’s work. Despite the fact that Quatramère’s notion of type is central to theories of typology, scholars including Argan, Vidler and Colquhoun do not uphold Quatramère’s Platonic attitude towards good and bad mimesis.<sup>33</sup> Rather, their work reflects a general shift towards positivistic, and perhaps instrumentalist thought paradigms, of the kind referred to by Perez-Gomez.<sup>34</sup>

When trying to unravel theories which advocate the participation of particular buildings in common patterns or ideals, it is useful to think in terms of archetypes, prototypes and stereotypes, as Paul-Alan Johnson does in his review of theoretical texts pertaining to the topic of typology.<sup>35</sup> Johnson describes archetypes

as abstract images, comparing them specifically to Plato's Forms. Prototypes, like the craftsman's bed in Plato's parable, are first instances of an archetype. Stereotypes, according to Johnson, are subsequent and often repeated copies of a prototype. Johnson admits to finding no obvious examples of archetypes in recent architectural theory and, in order to provide any examples at all, he is forced to adopt a broad definition of the term Platonic. "In recent architectural journals", Johnson writes, the notion of an archetypal "'central idea' in any all-embracing generative sense is never mentioned by architects and, if quizzed, they will say they do not discern a single, comprehensive notion central to their way of working".<sup>36</sup> When applied to late twentieth-century discussions of typology, Johnson's terms reveal that many such theories advocate the participation of buildings in a corresponding essence which can be distilled from the observation of stereotypes. A Platonic approach would have buildings participate in what Johnson calls an archetype.

Applying Johnson's terminology to Kahn's analogy of the spoon, stereotypical spoons participate in the archetypal spoon. According to a simplistic application of the terms and parameters of Platonic participation, Kahn describes a particular spoon ("a spoon", qualified by the indefinite article "a"), participating in *The Spoon Itself* (referred to as "spoon", singular), by reflecting that Form's essential relationship of a container to an arm. However, the matter is not so clear. Problems of logic are inherent in the extension of Plato's theory of Forms to the field of architecture. In the context of this dissertation, all of these problems cannot be resolved. Rather, the following discussions seek answers that are in keeping with the spirit of Plato's inquiry. Consideration of how a multitude of particular buildings, with all their component parts, participate in Forms, and how those Forms might be defined, raises far more questions than *The Republic* attempts to answer. It is for this reason that the following pages, in addressing these questions, will need to make recourse to Platonic dialogues other than *The Republic*.

## Matter Matters

The first question concerns the very application of Platonic philosophy to the conception of human artefacts. To those who see Platonism as an entirely otherworldly philosophy, Kahn's ultimate concern for material end-products would place him fundamentally at odds with Plato, whom, it is sometimes thought, would rather escape the realm of illusions/particulars altogether and have his soul return to the transcendent realm which really *is*. Such interpretations are informed by early dialogues such as *Meno* which portray sense experience as something that is actually hostile to knowledge and is responsible for humans forgetting the Forms at the moment of birth. The terrestrial incarnation is portrayed as a temporary disruption to the soul's true existence in the Form realm.

Plato's asceticism is reiterated in *Phaedo*, where he recalls Socrates saying that the soul

thinks best when none of these things troubles it, neither hearing nor sight, nor pain or any pleasure, but it is, so far as possible, alone by itself, and takes leave of the body, and avoiding, so far as it can, all association or contact with the body, reaches out toward the reality.<sup>37</sup>

An ascent from corporeality is advocated in *The Republic* as well, but the view is framed within an allegory, otherwise known as the simile of the cave. Plato writes

'I want to go on to picture the enlightenment or ignorance of our human condition somewhat as follows. Imagine an underground chamber like a cave, with a long entrance open to the daylight and as wide as the cave. In this cave are men who have been prisoners there since they were children, their legs and necks being so fastened that they can only look straight ahead of them and cannot turn their heads. Some way off, behind and higher up, a fire is burning, and between the fire and the prisoners and above them runs a road, in front of which a curtain-wall has been built, like the screen at puppet shows between the operators and their audience, above which they show their puppets'.

'I see'.

‘Imagine further that there are men carrying all sorts of gear along behind the curtain-wall, projecting above it and including figures of men and animals made of wood and stone and all sorts of other materials, and that some of these men, as you would expect, are talking and some not’.

‘An odd picture and an odd sort of prisoner’.

‘They are drawn from life’, I replied. ‘For tell me, do you think our prisoners could see anything of themselves or their fellows except the shadows thrown by the fire on the wall of the cave opposite them?’

‘How could they see anything else if they are prevented from moving their heads all their lives?’

‘And would they see anything more of the objects carried along the road?’

‘Of course not’.

‘Then if they were able to talk to each other, would they not assume that the shadows they saw were the real things?’

‘Inevitably’.

‘And if the wall of their prison opposite them reflected sound, don’t you think that they would suppose, whenever one of the passers-by on the road spoke, that the voice belonged to the shadow passing before them?’

‘They would be bound to think so’.

‘And so in every way they would believe that the shadows of the objects we mentioned were the whole truth’.<sup>38</sup>

One architectural scholar who emphasises the otherworldly aspects of Plato’s philosophy, and who identifies the speculative nature of Plato’s ideal republic, is Françoise Choay.<sup>39</sup> In comparing the cities evoked by Plato to Thomas More’s *Utopia*,<sup>40</sup> Choay stresses that, compared to More’s prescriptive spatial model, Plato’s contemplations are hypothetical in nature. Choay argues that the model state outlined in *The Republic* “is by definition foreign to the world of the senses”, and “belongs to true being, to the world of [F]orms, models for all that can come into being, and which are incapable of being situated in space or described in spatial terms”.<sup>41</sup> Even the *polis* in *Laws*, a much later work by Plato, is treated as though it were only hypothetical and could not be made manifest. Initially Choay argues that Plato’s *Laws* “discusses practical problems in a realistic state of mind far removed

from the metaphysical perspective adopted by the interlocutors in *The Republic*".<sup>42</sup> According to Jean-Pierre Vernant, whom Choay quotes, Plato's ideal *polis* in *Laws* does in fact represent a spatial plan, traced out on the ground.<sup>43</sup> Even so, Choay ultimately finds Plato's *polis* to be hypothetical, since Cleinias begins the discussion by suggesting that his fellow interlocutors *imagine* an ideal state.<sup>44</sup> Thus Plato designates the *polis* as imaginary by use of what Choay refers to as the "conditional".<sup>45</sup>

Choay makes a necessary point, that Forms such as *The Polis Itself*, cannot be confused with particular cities. The notion that Forms cannot be conceived in spatial terms is also vitally important and, later in this dissertation, this idea will be returned to in a discussion of Kahn's spatial representation of "forms". However, there is a danger that the otherworldly thrust of Choay's analysis could leave readers (with no grounding in Plato's philosophy), with the impression that the dialogues stand for the complete dismissal of the phenomenal realm, in which architecture exists. With respect to *The Republic*, such an interpretation ignores the political climate in which that dialogue was written and that it was conceived as a remedy for what Plato saw as Athens' political instability.

It would be simplistic to completely dismiss any concern Plato shows for the material world because of the otherworldly dimension to his philosophy. Plato's dialogue contains an ideal republic that defies spatial description, but it also contains a worldly republic. The remark, "[t]hen let us now finish the purgation",<sup>46</sup> made with respect to the exclusion of over complicated musical harmonies from his ideal republic, is indicative of Plato's concern in *The Republic* for an imperfect terrestrial city which needs purging, if only so that it may resemble the ideal republic which is in the Form realm.

Crombie argues that, unlike Aristotle who sees philosophy as an end in itself,

Plato would have us study the [F]orms so that we may understand the nature of order and thus impose it better on our lives. The philosopher of *The Republic* needs to apprehend the [F]orms in order to govern; the

carpenter of *The Republic* looks towards the [F]orms in order to make a table.<sup>47</sup>

Or using Kahn's example in "Form and Design", the spoon maker looks to *The Spoon Itself* in order to make a spoon.

From the outset therefore, it can be established that Kahn's concern for material artefacts aligns his philosophy with Plato's, despite the otherworldly sentiments in many of the latter's dialogues. There are further complications involved in the application of the Platonic concept of participation to architecture, and these are discussed below.

### **Building Taxonomy**

Having established that Plato is concerned with the material realm, it needs to be determined whether or not his concern for craftsmanship, as expressed in the parable of the bed maker, extends to architecture and whether or not his Form realm includes Forms corresponding to buildings. While Kahn's analogy of the spoon describes a small scale object with a similar degree of utility to beds, his text quickly moves to the consideration of architecture, a topic which may be beyond the scope of Plato's own inquiry. After his analogy of the spoon, Kahn asks his reader to "[r]eflect then on what characterizes abstractly House, a house, home. House is the abstract characteristic of spaces good to live in".<sup>48</sup> Later in the text, and in relation to his "form and design" thesis, Kahn goes on to discuss a range of architectural problems, including schools, his Unitarian church project, university chapels, laboratories and sun control strategies.

A number of isolated passages within Plato's dialogues suggest that his theory of Forms is intended to encompass architecture. In Plato's *Sophist*<sup>49</sup> built houses are compared with drawings of houses in the same manner as the parable of the bed maker compares beds and paintings of them. From passages in Plato's

*Sophist* and *Symposium*, Joseph Rykwert argues that Plato views building — along with pottery, carpentry, agriculture and shipbuilding — as one of many productive kinds of poetry, poetry being any activity which “causes the passage of non-being into being”.<sup>50</sup> A passage in *The Republic*, in which “architecture and the manufacture of furniture of all kinds”<sup>51</sup> are mentioned together in a list of crafts, provides the clearest indication that this dialogue similarly treats architecture as a category of craftsmanship. Within Plato’s scheme, buildings would therefore be classified as useful artefacts along with beds and architects as craftsmen, along with carpenters. Coincidentally, Kahn too treats buildings as objects of craftsmanship. In a statement made in 1964, Kahn includes “a work of architecture” in a list of what he refers to as “craft objects”.<sup>52</sup> These objects, according to Kahn, include “the spoon, the hatchet, a piece of silverware, a piece of crockery”, and “a book”.<sup>53</sup>

It has been seen that Plato’s *Sophist*<sup>54</sup> infers the existence of a Form which might be called *The House Itself*, of which individual houses are copies. Plato doesn’t specifically name all of the Forms which must exist if building types other than houses are to have a suitable model, but neither does he preclude their existence. If all kinds of buildings are to be patterned on corresponding Forms, then it can be deduced that a corresponding Form must exist for every kind of building. While this may have the tone of a syllogistic argument, a number of Plato scholars have considered the potentially boundless range of the Form realm. For example, David Melling observes that Plato specifically mentions Forms related to, “Beauty, Goodness, Justice, Equality, Heat, Cold, Oddness, Evenness [...] but we do not know what other Ideas exist”.<sup>55</sup> Ross takes this argument one step further, maintaining that Plato attributes a Form to every artefact that is spoken of universally.<sup>56</sup> Thus it is reasonable to argue that Plato’s theory of Forms must require the existence of a Form corresponding with every nameable class of artefact. If this is so, when Kahn describes building types such as schools, chapels, and houses in terms of corresponding “forms”, his thinking is in accord with Plato’s.

Within the parameters of Plato’s theory of Forms, how is the relationship

between buildings and Forms to be best understood? Plato uses a range of expressions to describe the relationship between material things and their corresponding Forms. Further to the notion of participation, things are said to have communion with, or partake of, Forms. Particular things are further described as copies, adumbrations, reflections or mere namesakes of their corresponding Forms. According to Taylor, all of these descriptions “express one and the same relation, viz. that which subsists between the subject and predicate of such propositions as ‘Socrates is a man’, ‘ABC is a triangle’, the relation, that is, between the individual member of a class and the class to which it belongs”.<sup>57</sup> He also writes that Forms are

what we should now call the ‘signification’ or ‘intension’ of a class name, as distinguished from its ‘extension’. The extension of the name is what Plato means when he speaks of the ‘many things which partake of’ the one Idea or class-concept. Consequently he sometimes says that there exists an Idea for every group of things which ‘have a common *name*’.<sup>58</sup>

The metaphor which proves to be most helpful when pairing individual buildings to their corresponding Forms is that which calls material things the namesakes of Forms. Accordingly, buildings can be treated as instances of the Forms corresponding to their class names. For instance, where a freestanding house is called “a house”, a Platonic reading would see it as participating primarily in *The House Itself*. This general principle can be observed in Plato’s parable of the bed maker, where an artefact called “a bed” participates primarily in *The Bed Itself*. More general and specific classifications can be considered also. For example, in certain situations a house may be referred to in a general sense as “a building”, “a shelter”, or simply “a space”. Meanwhile, a certain house might specifically be referred to as “a cottage”, “a bungalow” or “a mansion”. Therefore Forms such as *The Building Itself* or *The Shelter Itself* could be the intelligible counterparts of houses simply thought of as buildings or shelters by their designers, while Forms such as *The Mansion Itself* or *The Cottage Itself* could be the counterparts of specific kinds of houses. However, architects who describe their houses as metaphors for



things other than houses, or buildings, shelters or types of houses — things such as cars, trees, animals, planets, the cosmos, or God — do not think of their buildings in the same manner that Plato thinks of useful artefacts. From Plato's point of view, architects who copy such things ignore the natural counterparts of their houses and seek instead to have them participate in unrelated Forms, since, for example, under no circumstances would a house ever be named a tree. In other words, a particular house could never be classified as a kind of tree.

Can it be said that Kahn conceives his buildings as instances of “forms” corresponding to their class-names? Does he, for example, think in terms of *The Unitarian Centre Itself*, on which he models a particular Unitarian centre? Alternatively, he could be less specific, thinking of this project as a church, or simply a meeting place, based on a corresponding Form such as *The Church Itself* or *The Meeting Place Itself*. That is, Kahn may choose “forms” based on broad typological classifications.

According to Kahn, it would, initially at least, seem that the “form” diagram produced for Rochester is specific to Unitarian centres and that he doesn't conceive of this building as simply a church or a meeting place. Following Kahn's analogy of the spoon and building related examples, “Form and Design” presents the First Unitarian Church and School in Rochester as an instance of a “form” specific to Unitarian centres. Kahn writes

In the same spirit I should like to talk about a Unitarian Church.

The very first day I talked before the congregation using a blackboard. From what I heard the minister speak about with men around I realized that the form aspect, the form realization of Unitarian activity was bound around that which is Question. Question eternal of why anything. I had to come to the realization of what existence will and what order of spaces were expressive of the Question.

I drew a diagram on the blackboard which I believe served as the Form drawing of the church and, of course, was not meant to be a suggested design.

I made a square centre in which I placed a question mark. Let us say I meant it to be the sanctuary. This I encircled with an ambulatory for those

who did not want to go into the sanctuary. Around the ambulatory I drew a corridor which belonged to an outer circle enclosing a space, *the school*. It was clear that School which gives rise to Question became the wall which surrounds Question. This was the form expression of the church, not the design.<sup>59</sup>

In 1961 Kahn describes the “form” diagram produced for the Unitarian church in Rochester as his “first reaction to what may be a direction in the building of a Unitarian Church”.<sup>60</sup> He claims that

[h]aving heard the minister give a sense of the Unitarian aspirations, it occurred to me that the sanctuary is merely the centre of questions and that the school — which was constantly emphasized — was that which raises the question — the spirit of the question — were inseparable.<sup>61</sup>

He goes on to describe his inclusion of an ambulatory as a specific reaction to Unitarianism (this, ironically, despite a claim in 1960 that university chapels should also feature ambulatories<sup>62</sup>). His initial “form” drawing is meant to represent what Kahn refers to in 1961 as the “inseparable parts of what you may call a Unitarian centre, or Unitarian place”.<sup>63</sup>

Kahn refers to his church in Rochester as “a Unitarian centre”, but does he also refer to that building’s counterpart in “form” as something which can be likened to *The Unitarian Centre Itself*? While Kahn does not speak directly of “a Unitarian centre” and a “form” of which the former is a namesake, his conception of such a pair is nonetheless implied. In “Form and Design” and many other lectures and writings in which Kahn illustrates his “form and design” theory, the example of the First Unitarian Church and School in Rochester typically follows on from his analogy of the spoon. “But spoon is not a spoon”, he states in 1962, “spoon is form. A spoon is made out of silver, out of wood, or paper — when it becomes a spoon, that’s design. The realization, spoon. Form. Spoon is not design”.<sup>64</sup> According to Plato’s convention for describing Forms, the Form corresponding to spoons might be called *The Spoon Itself*. According to Kahn’s own convention, “forms” are typically denoted by the omission of the indefinite article “a”, while their

manifestations, or namesakes, which pertain to “design”, are usually preceded by an “a”. The dichotomy established between “spoon” and “a spoon” can be seen to distinguish between a “form” and its material counterpart, which he calls a “design”. According to Kahn’s convention, “spoon” can be thought of as a “form”. Meanwhile “a spoon” can be thought of as referring to a “design”. In Platonic terms, “a spoon” can be interpreted as an instance of *The Spoon Itself*.

Kahn’s hand-written draft of an article outlining his “form and design” thesis written for *Perspecta*<sup>65</sup> provides further evidence that his use of the indefinite article “a” is indeed a convention and one that he is particular about. Kahn writes his personal notes with a soft pencil that can easily be erased.<sup>66</sup> Kahn’s draft text of a short passage beginning “House, A house, Home”, displays many erasures, instances of underlining and changes to capitalisation around the words “House” and “A house”. This suggests that he uses “A” and “a” carefully and with intent.

Since his example of the First Unitarian Church and School in Rochester is often recalled directly after his analogy of the spoon,<sup>67</sup> the existence of a “form” which Kahn would call “Unitarian centre” (no “a”), is implied, if not stated, by his reference to “a Unitarian centre”. Following the convention established with his analogy of the spoon, “Unitarian centre” is a “form”, while “a Unitarian centre” is an instance of that “form”. From Kahn’s description of his “Unitarian centre” “form” in his article “Form and Design”, it be seen that this “form” is characterised by the inseparable relationship of two parts, School (capital “S”) and Question (capital “Q”). Kahn states that “[i]t was clear that School which gives rise to Question became the wall which surrounds Question. This was the form expression of the church, not the design”.<sup>68</sup> Not only are the words “School” and “Question” capitalised in this quotation, but they appear without the definite articles “the” or “a” before them, Kahn’s suggestion being that these are entities of a different kind to earthly schools or questions.

On many levels, Kahn’s espoused theory of “form and design”, as he describes it in relation to the First Unitarian Church and School in Rochester,

resonates well with Plato's views regarding participation and with Plato's tendency to attribute a Form to every class of particular which is spoken of universally. Kahn appears to treat his church in Rochester as "a Unitarian centre", based on a corresponding "form" which Kahn, in all likelihood, would refer to as "Unitarian Centre" (no "a"). Expressed in Platonic language, it can be argued that Kahn sees his church as an instance of *The Unitarian Centre Itself*.

There is one sense though in which Kahn's conception of a "form" which might be called "Unitarian Centre" can be seen to be foreign to the examples of Forms which Plato mentions in *The Republic*. Plato does not directly state whether the Forms corresponding to artefacts are very general, *The Building Itself* for example, or very specific, such as *The West Facing House for Four Inhabitants Itself*, but in his dealings with other types of Forms, he is usually concerned with broad classes of things rather than multiple sub-classes. While this is not exclusively the case,<sup>69</sup> he is typically concerned with broad classes that do not imply the presence of adjectives within the titles of their corresponding Forms. Most sympathetic with the spirit of Plato's dialogues therefore, are class names that can be expressed simply using unqualified nouns.

In *The Republic* Plato considers a number of different kinds of governance. He does not do this in order to define a range of qualified Forms related to governance, but rather to define the one true model of governance. Although he considers timarchy, oligarchy, democracy and tyranny,<sup>70</sup> Plato is not concerned with defining such Forms as *Timarchy Itself* or *Tyranny Itself*. In fact, there is no admission that these imperfect kinds of governance have corresponding Forms at all. Rather, Plato wishes to define the one ideal social structure which is the embodiment of *Justice Itself*. While as a matter of logical necessity, the existence of four imperfect classes of governance calls for the existence of four corresponding Forms, Plato's inquiry is directed at one ideal kind of governance and its corresponding Form. This tendency of Plato's is again evidenced in his parable of the bed maker, which does not discuss Forms corresponding to imperfect or qualified kinds of beds,

such as double beds, portable beds or uncomfortable beds. He simply considers *The Bed Itself*.<sup>71</sup>

The “form” which Kahn conceives in Rochester is not simply for a church, or a centre or a place. It is for a Unitarian church. Artefacts such as beds and principles such as justice, along with Plato’s other examples, serve all of humanity, while Unitarian centres only serve those who identify themselves as members of a specific congregation. Neither does Kahn’s “form” simply represent a church *or* a school; it is for a hybrid of these two institutions. In these respects, the “form” in which Kahn’s Unitarian church participates is not typical of the kinds of Forms which are discussed in *The Republic*.

### **Participation in Kahn’s Buildings**

In accordance with the stated parameters of this thesis, the discussion thus far has focussed on Kahn’s espoused theory as it relates to the Platonic concept of participation. However, upon consideration of his buildings, it can be seen that Kahn’s application of that theory is not always consistent.

Kahn’s “form” diagram for Rochester (Figure 19), features a question mark at its centre. Given that there is no discernible trace of that question mark in the finished church, Kahn’s “form” diagram could just as easily be superimposed over the plans of many of his buildings as it could be over the plan of his Unitarian church.

Other buildings designed after 1960<sup>72</sup> which feature a radial distribution of smaller spaces about a central space, thus conforming to Kahn’s “form” for Unitarian centres, are as follows: the Erdman Hall dormitories at Bryn Mawr College in Pennsylvania (Figure 20), the National Assembly in Bangladesh (Figure 21), the chapel of the unbuilt Dominican Mother House (Figure 22), the Phillips Exeter Academy Library in New Hampshire (Figure 13), and his unbuilt Hurva Synagogue proposal (Figure 23). All of the projects listed here feature cellular

ancillary spaces, opening onto corridors or ambulatories, encircling central spaces. So prevalent is this type within Kahn's oeuvre that William J.R. Curtis refers to it as the "Kahnian genotype".<sup>73</sup>

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**Figure 19: Kahn's "form" diagram for The First Unitarian Church and School, 1959.**

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**Figure 20: Erdman Hall, Bryn Mawr College, plan.**

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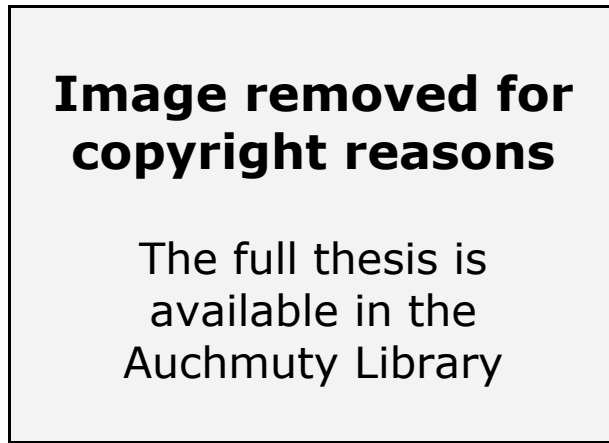
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**Figure 21: National Assembly Building, plan.**

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**Figure 22: Dominican Motherhouse, sketch plan.**



**Figure 23: Hurva Synagogue, plan.**

Although it is symmetrical about an axis rather than a point, the Salk Institute for Biological Studies in California (Figure 24) loosely conforms to Kahn's Unitarian centre "form" as well, having ancillary spaces arranged either side of a central plaza. Had there not been an obvious imperative to open that plaza to views of the nearby ocean, Kahn might well have wrapped ancillary spaces right around it in his typical fashion. Further to this, Kahn's unbuilt proposal for the University of Virginia Chemistry Building (Figure 25), utilises a planning strategy almost identical to that employed for the Salk Institute. The earliest centralised scheme in Kahn's oeuvre is Oscar Stonerov's and Kahn's Carver Court housing scheme in Pennsylvania of 1943 (Figure 26), where individual houses are arranged in a loop around a central community building.<sup>74</sup>



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**Figure 24: Salk Institute for Biological Studies, plan.**

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**Figure 25: University of Virginia Chemistry Building, schematic plan.**

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**Figure 26: Carver Court housing proposal, site plan.**

These examples challenge the interpretation of Kahn's "form and design" theory which has been presented in this chapter, since political assembly buildings, libraries, dormitories and laboratory complexes cannot be considered namesakes of *The Unitarian Centre Itself*. Any of three possible scenarios outlined hereafter could account for this apparent irregularity between Kahn's espoused theory and his practice of architecture.

According to the first scenario, Kahn models buildings other than Unitarian centres on *The Unitarian Centre Itself*, in which case his theory is at variance with Plato's tendency to match Forms and particulars according to their class names. According to the second scenario, Forms such as *The House Itself*, *The Library Itself* and so forth, can underlie buildings which, by sheer coincidence, happen to look very similar to Unitarian centres. In the same manner, a craftsman looking to *The Bench Itself* could produce artefacts which happen to look very similar to tables. According to the third scenario, Kahn's "form" diagram for the church in Rochester represents a more broad ranging Form than *The Unitarian Centre Itself*. Insofar as a Platonic interpretation of "Form and Design" is concerned, it is also necessary to critique the second and third of these three scenarios, testing each against Kahn's

theory as espoused and his theory as expressed through drawings and buildings.

With respect to the second scenario, it is significant that Kahn's "form" diagram for Unitarian centres features a question mark at its nucleus. That diagram represents a school (presumably made up of cellular classrooms), wrapped about a central space designated for questioning. Given that Kahn, in "Form and Design", specifically refers to the central space as "Question" (capital "Q", no "a"), rather than an auditorium or a questioning space, it would perhaps be more accurate to think of the question mark in Kahn's "form" diagram as a representation of the non-architectural Form of *The Question Itself*. "[T]he form realization of Unitarian activity", it will be recalled from a quotation above, "was bound around that which is Question. Question eternal of why anything".<sup>75</sup> Should Kahn produce similar concentric "form" diagrams for other building types, they may feature different symbols at their centres. For instance, a "form" diagram for political assembly buildings might, at its centre, feature a symbol representing debate. Similarly, a "form" diagram corresponding to dormitories might feature some symbol to denote dining, or conversing, at its centre. Just as there is no discernible trace of a question mark in his final design for Rochester, his other spaces would not necessarily be discernible, in an architectural sense, as debating spaces or dining spaces. Meanwhile, the "form" diagrams, and potentially the Platonic Forms, on which these very similar buildings are based, may each be unique by virtue of the designation of their central spaces for different functions. For example, a "form" diagram produced for political assembly buildings may describe office spaces wrapped about the non-architectural "form" of Assembly.

According to his long-term associate Marshall Meyers, Kahn's "notebooks are filled with thumbnail doodles that represent his introspective search for 'form'".<sup>76</sup> Unfortunately, it is impossible to determine how many of these doodles are "form" diagrams of the type produced for Rochester, since Kahn does not specifically refer to any of them in this way. Though rudimentary, it could be argued that many of his doodles depict walls and are therefore architectural, or plan-like,

and are not sufficiently abstract to be considered diagrams, especially given Kahn's insistence that form has no shape. Where his doodles are sufficiently abstract to be called diagrams, there is no means of confirming that Kahn sees them as "form" diagrams, or of confirming what "forms" they might represent (Figure 27).



**Figure 27: Kahn's sketch diagrams.**

Therefore, the scenario developed here cannot be verified by looking at other "form" diagrams, since these cannot be positively identified, but neither can this scenario be ruled out. Since Kahn goes on speaking of "form and design" throughout the 1960s and 1970s,<sup>77</sup> he may conceive of other "forms" (with distinct functions designated for their nuclei), without actually drawing diagrams to represent them. As the second of the above scenarios states, Kahn may use different "forms" to produce apparently similar buildings.

The third scenario holds that the many building types for which Kahn adopts centralised planning strategies are based on the one all-encompassing "form". If Kahn's theory is to be consistent with Plato's views on participation under this scenario, his centralised "form", or Form, should bear some name which encompasses libraries, dormitories, political assemblies and worship spaces for other religions, while not encompassing those other building types for which Kahn could have adopted a concentric arrangement, but chose not to. For example, Kahn's art galleries do not feature a radial distribution of rooms about a central space.<sup>78</sup> For Kahn's application of his "form and design" theory to parallel Plato's treatment of participation in *The Republic*, the "form" corresponding to all of Kahn's centralised schemes would need some broad ranging name if buildings of various kinds are to be viewed as namesakes of that "form".

Both Unitarian centres and political assembly buildings, and to a lesser degree dormitories, can be thought of as micro-societies made up of small spaces for individuals or small groups, who at times need to gather in one large common space. Should there be one Platonic Form that encompasses such complexes, it might be called *The Society Itself*. Should Kahn refer to one such “form” underpinning all his concentric schemes, he might refer to the “form essence” of societal buildings, or simply Societal Building (capitalised, singular and no “a”). To stay in the grain of Plato’s reasoning, Kahn would need to refer to a particular building which had been based on such a Form as “a societal building”. Otherwise, he would need to treat the various buildings listed above as namesakes of *The Society Itself*.

This draws attention to the potentially open-ended nature of defining Forms corresponding to buildings. To illustrate: a cottage is a kind of house; a house is a kind of building and a building is a kind of human artefact. At the risk of taking this to extremes, a human artefact can be described as a kind of material entity, or particular. If Plato’s philosophy allows for the existence of a Form corresponding to every kind of particular, should an architect designing a political assembly building treat that building as an instance of *The Political Assembly Building Itself* or *The Society Itself*, rather than *The Building Itself*, *The Human Artefact Itself*, or *The Particular Itself*? Since their names imply a specify use (or “*ergon*”), the first two Forms listed are more comparable to *The Bed Itself*.

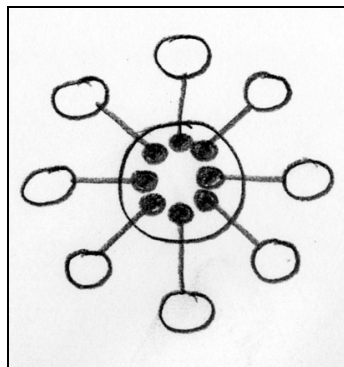
Due to the lack of any evidence to suggest that Kahn was a close reader of Plato, he is unlikely to have been aware of the fact that his radial planning strategies actually resemble Plato’s conception of an ideal *polis* in *Laws* (848). In that dialogue Plato outlines an arrangement which roughly conforms to Kahn’s “form” diagram for the First Unitarian Church and School in Rochester. Plato writes that

the city should be placed as nearly as possible in the centre of the country [...]. Then we will divide the city into twelve portions, first founding temples to Hestia, to Zeus and to Athene, in a spot which we will call the Acropolis, and surround with a circular wall, making the division of the entire city and country radiate from this point [...]. And every man shall

have two habitations, one in the centre of the country, and the other at the extremity.<sup>79</sup>

Like Kahn's micro-societies, Plato's ideal *polis* provides the individual with a private space in its outer band and a space at its centre for the engagement in public life. As with Kahn's societal buildings, the centrality of the common place and the radial distribution of private spaces around it are fundamental to Plato's ideal *polis*.

The notion of encircling a communal space with smaller private spaces in a radial manner can be described by a diagram which allocates to each citizen of a city a peripheral space of their own, as well as a central space in which to gather (Figure 28). In Platonic terms, this diagram could be seen as a representation of *The Polis Itself*, or, more generally, *The City Itself*, or even *The Society Itself*. Using Kahn's terms, it might be called a "form" diagram representing the "form-essence" of micro-societies.



**Figure 28:** A diagram representing *The Polis Itself*.

Of the two scenarios argued for here, it would seem more likely that Kahn uses subtly different "forms" to produce very similar buildings, rather than applying one broad-ranging "form" to all his societal buildings. The former scenario is supported strongly by Kahn's words, since he refers to "form" realisations relating to many specific building types.<sup>80</sup> For example, with respect to his Bryn Mawr College — a building that conforms to Kahn's Unitarian centre "form" — Kahn recalls placing bedrooms at a level above the dining room. Writing in 1962, he describes this act in terms of a "realization in form".<sup>81</sup> With respect to The National

Assembly Building in Dacca, which also adopts a concentric planning arrangement, Kahn sees “a mosque woven into the space fabric of the assembly” as an inseparable element of “the transcendent nature [or form] of assembly”.<sup>82</sup> The second scenario cannot be confirmed or refuted by “form” diagrams produced for these projects, since no such diagram can be positively identified.

The last scenario, valid though it may be, finds no clear support from Kahn’s words or his drawings. Neither does the last scenario account for Kahn’s Phillips Exeter Library, in which the central space has no gathering function, or some of his centralised worship spaces which are not encircled by private rooms. Were Kahn not to conceive of distinct though similar “forms” for both libraries and churches, then it could only be concluded that he has some fascination with concentric planning strategies which defies his rhetoric about “form and design”.

This latest proposition is not purely rhetorical. There is evidence to support it, namely those concentric schemes that Kahn proposes prior to the announcement of his “form and design” theory in 1960. There are two notable examples. Firstly, there is the Goldenberg House of 1959 (Figure 29), which features a square central courtyard wrapped by rooms of varying size, in the same manner as class rooms encircle the central space at Rochester. Secondly, there is the Bath House for the Jewish Community Centre in Trenton designed between 1954 and 1959 (Figure 30). This building is dominated by radial symmetry in its four parts and its overall composition. That these two projects pre-date his first pronouncements about “form” by a few months and five years respectively, suggests that they may be formative works, that Kahn may have been thinking of intangible pre-forms at the time of their conception but without writing or speaking about his processes. As Susan Solomon argues, Kahn would look back on the Trenton Bath House as a personal triumph and “a major turning point that influenced his approach to all subsequent work”.<sup>83</sup> However, it must be noted that where Kahn discusses the Trenton Bath House, he presents it as an exemplar of his “servant and served” paradigm and not his theory of “form and design”.<sup>84</sup>

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**Figure 29: Goldenberg House, plan.**

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**Figure 30: Trenton Bath House, plan.**



Since Kahn is drawn towards concentric planning strategies before he ever refers to ideal “forms”, his obsession with radial symmetry may have roots that he does not acknowledge.<sup>85</sup> In an interview with the author of this dissertation, Anne Tyng suggests that the recurrence of centralised plans in Kahn’s work reflects what she describes as Kahn’s introverted nature and his subsequent search for a stabilising archetype, namely, the Mandala of Jungian psychology.<sup>86</sup> From her Jungian perspective, Tyng views the Mandala symbol as an object of meditation on which to focus in times of outer turmoil. According to Tyng, Kahn had at least a peripheral knowledge of Jungian psychology, since, nearing the end of her relationship with Kahn, Tyng herself underwent Jungian analysis.<sup>87</sup> Regardless of whether or not Kahn is consciously aware of the Mandala, Tyng, as a Jungian herself, views the Mandala as something that is known innately to all humans and therefore subliminally known to Kahn regardless of traceable influences. Further to this, John Lobell claims that “Kahn designed the Salk Institute as a Mandala”<sup>88</sup> and he emphasises similarities between Jung’s and Kahn’s theories generally.<sup>89</sup>

The scenario which remains most consistent with Kahn’s espoused “form and design” theory, while accounting for those buildings which he conceives after the formulation of that theory, is that he conceives of “forms” for every building type facing him, while he makes no further positively identifiable “form” diagrams. Though the different “forms” corresponding to various building types may produce very similar buildings, they are nonetheless distinct.

Admittedly, there are problems with this conclusion. Referring to his Indian Institute of Management, Kahn is quoted as saying that “[t]he plan comes from the idea of monastery. The idea of the seminar classrooms and its meaning to learning”.<sup>90</sup> Under no circumstances could The Indian Institute of Management be named a monastery. If, in this context, Kahn uses the word “idea” in the Platonic sense, then from a Platonic stand-point he could be accused of misappropriating a Form, by modelling a management institute on *The Monastery Itself*. However, the second half of this quotation suggests that the plan may be based on “the idea of the

seminar classrooms”, which would be more appropriate from a Platonic standpoint. Reading the above quotation in its entirety highlights the folly of attempting to analyse every one of Kahn’s statements in a literal manner. Often Kahn deliberately uses words ambiguously, inviting conflicting readings. In 1972 Kahn admits to thinking cryptically and to being “very hard to follow”.<sup>91</sup> His conviction for his own theory also wavers. In this instance, the word “idea” may be interchangeable with “form”, and synonymous with Plato’s Forms. What matters here is that the above use of the word “idea” represents an isolated instance. Meanwhile, Kahn’s use of the word “form” and his use of the word “a” — as in “a house” — represent fairly consistent trends from which more meaningful conclusions can be drawn.

The second of the three scenarios presented above is most consistent with both Kahn’s espoused and expressed theory. The third scenario is also valid, though it finds less support. Therefore Kahn’s apparent re-use of a concentric “form” for different building types need not be a serious impediment to a reading of his theory through a Platonic lens.

### **Modern and Future Forms**

In “Form and Design” Kahn deliberates over various types of buildings which did not exist in the 380s B.C., while Plato was writing *The Republic*. What ramifications might this have for a Platonic interpretation of Kahn’s theory?

Generally, Kahn’s conception of modern and even futuristic “forms” does not detract from a Platonic reading of his text. According to philosophers, Crombie, Ross and Taylor, the Forms are autonomous, atemporal and transcendent. They exist independently of human consciousness and of their namesakes. From an architectural standpoint, it would be entirely consistent with the classical theory of Forms to conceive of slumbering Forms, such as *The Office Tower Itself*, which until recently existed without participants. Notably, the creation myth in the *Timaeus* indicates that Plato is aware of a time prefiguring the earthly manifestation of every

Form, during which all of the Forms can be thought of as slumbering. It is reasonable therefore to further populate the Form realm with Forms corresponding to modern and even future building types.<sup>92</sup>

Given that slumbering Forms can await their earthly debuts, architects would be able to discover as yet unheard of Forms. Insofar as modern building types are concerned, a classical conception of the Forms allows for the discovery of autonomous Forms. Aristotelian interpretations of Plato's Forms open a line of enquiry not pursued by this dissertation, in which Forms may be conceived, or developed.<sup>93</sup>

As well as Forms corresponding to the various building types concerning architects of Plato's day, such as temples, warehouses and gymnasia, it would be consistent with Plato's theory to populate the Form realm with Forms corresponding to the building types which concern architects today. Presumably Plato recognises that even these ancient types once did not exist on earth. Since Forms in their classical sense are considered to be atemporal then there must have been a time when Forms such as *The Temple Itself*, and *The Gymnasium Itself* awaited earthly participants. It follows that during the period when Plato was writing his dialogues, atemporal Forms such as *The Office Tower Itself* existed in the Form realm awaiting their relatively recent manifestations. It would therefore be reasonable to further populate an atemporal Form realm with Forms corresponding to modern building types,<sup>94</sup> and it is to such Forms that Kahn can be seen to refer when, in "Form and Design", he argues that cranes will lead to "the realization of a new form".

One day I visited the site [of The Richards Medical Building] during the erection of the prefabricated frame of the building. The crane's 200-foot boom picked up 25-ton members and swung them into place like matchsticks moved by the hand. I resented the garishly painted crane, this monster which humiliated my building to be out of scale. I watched the crane go through its many movements all the time calculating how many more days this 'thing' was to dominate the site and building before a flattering photograph of the building could be made.

Now I am glad of this experience because it made me aware of the meaning of the crane in design, for it is merely the extension of the arm like a hammer. Now I began to think of members 100 tons in weight lifted by bigger cranes. The great members would be only the parts of a composite column with joints like sculpture in gold and porcelain and harbouring rooms on various levels paved in marble.

These would be the stations of the great span and the entire enclosure would be sheathed with glass held in glass mullions with strands of stainless steel interwoven like threads assisting the glass and the mullions against the forces of wind.

Now the crane was a friend and the stimulus in the realization of a new form.<sup>95</sup>

Elsewhere, Kahn asks rhetorically why new institutions should not be discovered. “Why must we assume that there cannot be other things so marvellous as the emergence of the first monastery”, he asks, “for which there was no precedence whatsoever”.<sup>96</sup> Since Plato’s Forms are autonomous and can slumber without earthly participants, awaiting discovery, such references to previously undiscovered “forms” are reasonable for Kahn to make.

### **Insalubrious Forms**

Is there a point where further populating the Form realm becomes ridiculous? Kahn’s suggestion that the ductwork of his Richards Medical Building is the result of a “form” realisation, implies his belief in “forms” corresponding to building services.

The Medical Research Building at the University of Pennsylvania is conceived in recognition of the realizations that science laboratories are studios and that the air to breathe should be away from the air to throw away.

The normal plan of laboratories which places the work areas off one side of a public corridor and the other side provided with the stairs, elevators, animal quarters, ducts, and other services. This corridor is the vehicle of the exhaust of dangerous air and also the supply of the air you breathe, all

next to each other. The only distinction between one man's spaces of work from the other is the difference of the numbers on the doors.

I designed three studio towers for the University where a man may work in his bailiwick and each studio has its own escape *stairway sub tower* and *exhaust sub tower* for isotope air, germ-infected air, and noxious gas.

A central building to which the three major towers cluster takes the place of the area for services which are on the other side of the normal corridor plan. This central building has nostrils for intake of fresh air away from *exhaust sub towers* of vitiated air.

This design, an outcome of the consideration of the unique use of its spaces and how they are served, characterizes what it is for.<sup>97</sup>

The need for a mechanical exhaust system for his Richards Medical Building prompts Kahn's realisation concerning the "form" of laboratories, that vertical exhaust towers should be outside the building envelope. Kenneth Frampton goes so far as to claim that mechanical services had presented Kahn with a crisis, which became the primary impetus for his "form" realisations.<sup>98</sup> But can this "form" realisation regarding laboratory ductwork be interpreted in terms of Plato's Forms?

While in *The Republic* the discussion of Forms corresponding to useful artefacts is quite limited, in Plato's *Parmenides*, Socrates is asked whether hair, mud, dirt or anything else which is vile and paltry might have a corresponding Form. Though Socrates answers no, he admits to thinking occasionally that nothing can exist without a corresponding Form, a thought he reels from lest he fall into a bottomless pit of nonsense. Ross claims that Plato's better thoughts on this issue<sup>99</sup> are expressed through Parmenides when he replies,

Yes, Socrates, that is because you are still young; the time will come, if I am not mistaken, when philosophy will have a firmer grasp of you, and then you will not despise even the meanest things; at your age, you are too much disposed to regard the opinions of men.<sup>100</sup>

Notwithstanding the general ambiguity of this particular dialogue — which Crombie describes as a "tangled and fallacious" argument left for the reader to interpret<sup>101</sup> — Parmenides' reply makes way for the attribution of Forms to any class of building or building element.

## The One and the Many

Connected to his “form and design” theory is Kahn’s insistence that from one “form” many designs can come.<sup>102</sup> In the Cooper Union address where he introduces his “form and design” theory, Kahn argues that houses should not be tailored to suit individual clients, but that every house should participate in the “form” of “house”.

The test of a great house is not, in my opinion, the fact that you have solved very well what the client wanted, but whether the building actually has abstractly the qualities of house.<sup>103</sup>

In other words, the “form” of “house” is not simply to be used once, but many times. The same principle is evident in Kahn’s article “Form and Design”.

House is the form, in the mind of wonder it should be there without shape or dimension. A house is a conditional interpretation of these spaces. This is design. In my opinion the greatness of the architect depends on his powers of realization of that which is House rather than his design of a house which is a circumstantial act. Home is the house and the occupants. Home becomes different with each occupant.

The client for whom a house is designed states the areas he needs. The architect creates spaces out of those required areas. It may also be said that this house created for the particular family must have the character of being good for another. The design in this way reflects its trueness to Form.<sup>104</sup>

Kahn’s view that many particular buildings should be modelled on a single “form”, echoes Plato’s notions of the one and the many. In *The Republic* Plato uses the words “one” and “many”<sup>105</sup> to describe singular Forms and their numerous manifestations respectively.

Plato’s choice of these terms suggests that there *cannot* be a Platonic Form corresponding to each and every new commission, as each Form must be applicable to *many* individual buildings. Should this be so, the deterministic notion that every

combination of program and site brings with it an irreducible and unique solution waiting to be uncovered, is not consistent with Plato's thinking about the Forms, even though it does suggest that a model exists prior to its systematic discovery and subsequent manifestation. Rather, Plato's notion of the one and the many suggests an approach similar to that which Kahn adopts, whereby the possibility exists for every building related "form" to have many earthly participants.

Using the terminology adopted thus far, this point can be made in another way. For a building to be an instance of the Form corresponding to its class name, there must be the potential for a class of similar buildings to come into existence. To illustrate, a hypothetical Form such as *The Eastern Extension To Frank Lloyd Wright's Fifth Avenue Guggenheim Museum Itself* may be considered. Notwithstanding the unlikely possibility that a succession of constructions and demolitions may produce many eastern extensions to the Guggenheim over time, the proposed Form does not correspond to a class of buildings. However, museums do represent a class of buildings, since they are many. Therefore, *The Museum Itself* would be a valid Form, while the specific Form proposed above would not.

This is not to say that every Form, or Kahnian "form", must have many participants, only that it could do so. In this regard Taylor argues that

classes with only one member are just as common in logic as classes with many, and so we find Plato in the *Timaeus* explicitly recognising one such concept or idea which is 'partaken of' by only one sensible thing, viz. the Idea or concept of the physical universe as a whole.<sup>106</sup>

That Kahn's "form" for Unitarian centres only happens to have one participant, The First Unitarian Church and School in Rochester, does not invalidate that "form's" universal status from a Platonic standpoint. The important point is Kahn's belief that his Unitarian centre "form" could and should be used many times.

Where Kahn had only one opportunity to use the "form" for Unitarian centres, after 1960, he typically uses the same planning strategies for buildings of the same type. As mentioned earlier, with his University of Virginia Chemistry

Building, Kahn re-uses the planning arrangement developed (or *discovered*), for the Salk Institute for Biological Studies, as though he believes in an ideal “form” on which all laboratories should be based (Figures 24 and 25). Likewise, Kahn’s chapels are all based on a concentric plan type, or “form”, which Kahn might call chapel (no “a”), or which a Platonist might call *The Chapel Itself*. His art galleries after 1960 are all based on a room system, with courtyards or voids punched through to lower levels, as though he sees this as the ideal “form” corresponding to art galleries.

With annotations on a drawing of 1971 titled “The Room”,<sup>107</sup> Kahn expresses the view that “[a]rchitecture comes from the making of a room”, and that the plan is “a society of rooms”. Studies of this drawing by Kohane suggest that a common conception of an ideal room underlies many of the rooms in Kahn’s buildings.<sup>108</sup> Like the room in Kahn’s drawing, that being an idealised room, many of the rooms in Kahn’s buildings feature a fireplace and a window framing an intimate place to sit.

For building types unencumbered by functional requirements — that is, where “form” is relatively unaffected by the circumstances related to “design” — Kahn produces almost identical solutions. For example, the prayer-hall through which parliamentarians enter his National Assembly in Dacca (Figure 21) is a near replica of the prayer-hall proposed for the Mikveh Israel Synagogue (Figure 31). Each is an almost cubic space top-lit by what Kahn calls hollow columns at each of its four corners. In the context of his “form and design” theory, it is likely that this arrangement constitutes Kahn’s conception of prayer-hall (no “a”), that being a “form”, unaffected by the circumstances related to “design”.

Viewed in the context of his “form and design” theory, Kahn’s similar laboratories, chapels, art galleries and prayer halls suggest that his first response to the design of any building is to realise the irreducible character of a particular building’s corresponding “form”. Where the nature of that “form” has been realised previously, Kahn’s approach is to automatically adopt that known “form”. Critical to



his choice of a “form” is its name and the class name which describes his commission. Just as Kahn sees the design of a spoon as having been based on spoon (no “a”), which is its corresponding “form” in name, so too he selects his chapel “form” when faced with the design of a chapel, and his prayer-hall “form” when faced with the design of a prayer-hall. In this regard, his theory and practice resonates particularly well with Plato’s references to Forms as “one”, and particulars as “many”.



**Figure 31: Mikveh Israel Synagogue, plan. (Prayer hall in centre).**

### **Participation and Building Elements**

Consistent with Plato’s notions of the one and the many, Kahn recycles idealised conceptions of planning strategies, but does this attitude extend to his treatment of the many individual elements within his buildings? The following passage from “Form and Design” suggests that it does. In it Kahn claims to have had “form” realisations related to elements such as fly-roofs and free standing walls intended to control glare.

I am doing a building in Africa, which is very close to the equator. The glare is killing, everybody looks black against the sunlight. Light is a needed thing, but still an enemy. The relentless sun above, the siesta comes over you like thunder.

I saw many huts that the natives made.

There were no architects there.

I came back with multiple impressions of how clever was the man who solved the problems of sun, rain, and wind.

I came to the realization that every window should have a free wall to face. This wall receiving the light of day would have bold opening to the sky. The glare is modified by the lighted wall and the view is not shut off. In this way the contrast made by separated patterns of glare which skylight grilles close to the window make is avoided. Another realization came from the effectiveness of the use of breeze for insulation by the making of a loose sun roof independently supported and separated from the rain roof by a head room of 6ft. These designs of the window and wall and of the sun and rain roofs would tell the man on the street the way of life in Angola.<sup>109</sup>

These examples from “Form and Design” suggest that the themes of the text’s title apply not only to the conception of plans, but that Kahn also applies them to the conception of building elements. Within the framework of his “form and design” theory, the elements in Kahn’s buildings can therefore be viewed as instances of corresponding “forms”. The following discussion asks whether or not Kahn’s conception of elements as participants in corresponding “forms” can be interpreted in terms of Plato’s theory of Forms, in the same way as Kahn’s conception of buildings types has been.

If a Form exists for every class of building which is spoken of universally, then the same could be said of every class of building element which corresponds to a set function and which is spoken of universally. All buildings are comprised of classifiable elements. Banister Fletcher’s *A History of Architecture on the Comparative Method*,<sup>110</sup> which discusses the treatment of walls, openings, roofs and columns in the architecture of every age and culture, is testimony to this inescapable aspect of building. Also recognising the essential role of elements in the production of buildings, Thomas Thiis-Evensen treats common kinds of walls, openings and roofs as universals in his book, *Archetypes in Architecture*.<sup>111</sup> Within its population, might the Form realm described in *The Republic* contain Forms corresponding to each of a building’s component parts?

Since, according to Plato there is a Form corresponding to every nameable class of particular, his Form realm would include within its population Forms corresponding to the nameable classes of elements which can be combined to produce buildings. From Banister Fletcher's identification of walls, openings, roofs and columns as universal elements, it can be argued that the Form realm would include within its population *The Wall Itself* and *The Column Itself*. This is because the terms wall and column can be viewed as classifications, each representing a class of particulars. Many more building related Forms can be added to this list, corresponding to every nameable class of building element.

Just as Plato would have architects conceive entire buildings as instances of their corresponding Forms — as the craftsman looks to the Forms to make a bed — he would also view the individual elements of their buildings as instances of those elements' corresponding Forms. Particular walls would be thought of as instances of *The Wall Itself*, particular doors would be thought of as instances of *The Door Itself*, and so on.

Kahn's reference to "forms" corresponding to fly-roofs and glare walls suggests that his theory is in accord with Plato's in this regard, but there are other questions which can be asked. Firstly, do other Kahn scholars observe that Kahn's theory promotes an approach to the design of buildings that is reliant on the assemblage of elements? Secondly, are Kahn's other statements regarding the conception of elements consistent with Plato's theory of Forms and are Kahn's statements regarding elements framed by his "form and design" theory? Finally, are the elements in Kahn's buildings treated as instances of ideal "forms?" These questions are considered in the following ways. Scholarship which identifies a tendency in Kahn's work towards elementalist compositions will first be presented. This will be followed by a discussion of statements by Kahn which confirm that he conceives buildings as assemblages of elements and that his views regarding elements constitute a branch of his "form and design" theory. Finally, confirmation that Kahn's theoretical pronouncements regarding elements actually inform his

architecture is sought via an examination of his mature works, particularly his First Unitarian Church and School in Rochester.

Between the major authorities on Kahn there is broad agreement regarding the elemental nature of his work. Kahn's elemental tendencies are typically linked to French influences associated with his Beaux-Arts training. Reyner Banham was the first to make this connection, writing in 1962 that

[a]mong the academic kit of tools that every French architect (including Le Corbusier) and most American architects of Kahn's generation [...] have inherited from the Beaux Arts tradition is the idea of design as the assembly of so many 'Elements of Composition' as Gaudet called them. Each of these elements was, ideally, a volume or room devoted to a single function.<sup>112</sup>

Kenneth Frampton pursues Banham's argument in his 1980 article, "Louis I. Kahn and the French Connection".<sup>113</sup> Looking at Kahn's Beaux-Arts education, from which Kahn assumes "the full spectrum of the French Rational-Classical legacy",<sup>114</sup> Frampton links Kahn's predilection for elemental compositions to J. N. L. Durand. According to Frampton, Durand posits "the grids, enfilades, colonnades, and elevations of his *Précis* as essentially empty elements which, if appropriately chosen and combined, could be arranged to accommodate an infinite variety of programs".<sup>115</sup> By identifying elemental tendencies in Kahn's theory and by drawing connections to French theorists, Banham and Frampton make a case for interpreting Kahn's theory as one which promotes the assemblages of elements to produce buildings. While other aspects of Kahn's theory have been subjects for debate,<sup>116</sup> there is a general acceptance among Kahn scholars of Banham's and Frampton's analysis. Not all instances of this acceptance need to be discussed here, although three elaborations on the theme of elementalism in Kahn's theory are noteworthy. These are provided by Christian Bonnefoi, Romaldo Giurgola and Charles Jencks.

Bonnefoi relates Kahn's mounting of building elements on raised podiums to the mounting of found-objects by minimalist sculptors. Bonnefoi finds parallels

between Kahn's and the minimalists' definitions of such concepts as space and the object.<sup>117</sup> From a Platonic standpoint, Bonnefoi's analysis supports interpretations which view the elements and spaces of Kahn's buildings as distinct entities.

According to Giurgola, not only does Kahn view a building's material parts as elements to be assembled, but space for Kahn is "an entity in itself, actually a tangible element capable of giving order to the architectural complex in a hierarchical system".<sup>118</sup> Within the context of the present discussion, Giurgola's argument regarding Kahn's appreciation of space supports readings which treat spaces such as rooms and auditoria within Kahn's buildings as intact elements.

Of greatest pertinence to this study are Charles Jencks' remarks regarding the elements of Kahn's buildings, since Jencks describes the elementalist quality of Kahn's and his contemporaries' work in specifically Platonic terms. As mentioned previously, Jencks claims that the elements in Kahn's buildings seem to have "arrived perfected from Plato's ideal realm",<sup>119</sup> as though the elements of Kahn's buildings had been conceived as instances of their corresponding Platonic Forms. Consistent with Jencks' interpretation, Kahn is unambiguous when stating that buildings should be assembled from a repertoire of already perfected elements. "I think architects should be composers and not designers"<sup>120</sup> he states in 1966. "They should be composers of elements. The elements are things that are entities in themselves".<sup>121</sup>

Within the framework of this dissertation, it is important to emphasise that Kahn's views regarding elements are closely linked to his "form and design" theory and that this theory is not solely concerned with the conception of planning strategies for whole buildings. The emphasis thus far on Kahn's planning strategy at Rochester as the main exemplar of his "form and design" theory ignores Kahn's application of that theory to the development of architectural elements. The clearest example of this extension is Kahn's claim in "Form and Design" that the exhaust towers of the Richards Medical Building represent a realisation in "form".<sup>122</sup> It will also be recalled that the principle of Kahn's analogy of the spoon can, as he states in 1962,

“be extended to buildings as well as it can to everything we make”.<sup>123</sup>

In 1966, in a lengthy discussion regarding the elements of architectural composition, Kahn argues that

[w]hen a real Georgian architect [...] took in his hand what was the fireplace before he placed it on the plan, he knew everything about it. It was part of the way of life, and every element of it was known to him [...].

When he put a dormer in, he made it out of permission of the roof — he asked the roof first, “I don’t want to spoil you, I want to make something there so can you give me permission?” [...].

Composition is dealing with element, and design is a matter of working with them so it becomes perfection. Composition to me becomes attitude and it has to do with the recognition of elements.

I would think that if you’re are dealing with a column you must give it a beam. You cannot have a column without a beam. It is an elemental thing. You can’t have a column and a slab [...]. [Y]ou know the slab has a beam inside of it.<sup>124</sup>

Not only does Kahn treat elements as entities in themselves, but his asking a roof for permission to add a dormer is an example of his personification of elements.<sup>125</sup> In Kahn’s figurative description of an architect taking a fireplace in his or her hand before placing it on a plan, the fireplace is described as though it were an idea and not a material entity. This must be so, since the fireplace to which Kahn refers is at once full sized (a “part of the way of life”), hand sized (when in the architect’s hand), and two dimensional (when placed on the plan). Significantly, Kahn refers to “the fireplace”, rather than “a fireplace” or “fireplaces”.

As well as describing the fireplace as an element, Kahn also refers to the component elements of the fireplace. These smaller elements could include the hearth, the throat and the flue for example. The process of breaking elements into their component parts would ultimately reveal that a (masonry) fireplace consists of bricks, and perhaps tiles and a lintel. Given his tendency to view buildings as assemblages of elements, and elements as assemblages of their constituent parts, his preoccupation with individual bricks comes as no surprise. According to an often repeated illustration

[w]hen you are dealing or designing in brick, you must ask brick what it wants, or what it can do. And if you ask brick what it wants, it will say, “Well, I like an arch”. And then you say “But, uh, arches are difficult to make. They cost more money. I think you can use concrete across your opening equally as well”. But the brick says, “Oh, I know, I know you’re right, but you know, if you ask me what I like, I like an arch”. And one says, “Well now, why be stubborn, you know?” And the arch says, “May I just make one little remark? Do you realise that you are talking about a being, and a being in brick is an arch?”<sup>126</sup>

Not forgetting that this imagined conversation is a poetic construction, devised by Kahn primarily to instill in his audience a sense of reverence for materials and their inherent strengths, this illustration has a metaphysical dimension as well. Using Plato’s theory of Forms as an interpretive tool, Kahn’s conversations with bricks can be viewed as a dialectical engagement with the Forms in which bricks and arches participate. It should also be noted that in the above quotation Kahn uses the singular term “brick” rather than “a brick” or the plural term “bricks”. According to Kahn’s previously identified convention, “forms” are often referred to using singular terms, “school” for example. The entities with whom Kahn carries out the imagined conversation quoted above can therefore be interpreted in terms of *The Brick Itself* and *The Arch Itself* rather than actual bricks or arches. Essentially, *The Brick Itself* describes a rectilinear compressive unit. *The Arch Itself* may describe an opening built solely from bricks and which is therefore conducive to the contemplation of an essentially compressive element, *The Brick Itself*. As irreducible elements in masonry buildings, bricks — conceived as instances of a personified idea, akin to *The Brick Itself* — hold a special place in Kahn’s elementalist conception of buildings.

The pre-eminent personified element with which Kahn composes his buildings, remains however, the room. According to the logic of Platonic participation, spatial units could be modelled on corresponding Forms, just as tectonic elements can be. This is due to the fact that often repeated kinds of spaces can be attributed class names. For example, rooms, hallways, foyers and theatres can

be treated as classifications from which larger complexes can be assembled. Like the elements of a building, idealised rooms, hallways, foyers, theatres and other spaces can be manipulated and assembled during the architectural design process. An example of such an approach to architectural composition is Hadrian's Villa, where discrete spatial types are combined to make a new whole. This new whole can be read as a Villa, while concomitantly, its parts can be read as separate kinds of spaces, or instances of their own corresponding Forms. Another example of an elementalist approach to architectural composition is Stirling's and Gowan's Engineering Faculty Tower at Leicester University. Whereas in Hadrian's Villa spatial elements are arranged on the ground, Stirling and Gowan assemble theatres, offices, a podium and a stair, on top of one another to produce a three dimensional composition assembled using idealised elements. Both of these examples illustrate what kinds of buildings a Platonic conception of common architectural spaces might lead to. These are buildings which can be described as assemblages, in which every space can be classified using unqualified nouns. These buildings tend not to contain odd, unique or hybrid spaces that cannot be easily named.

“[A]rchitecture stems from the making of a room”,<sup>127</sup> Kahn states in 1972.

A plan is a society of rooms. The rooms talk to each other and they make up their minds where their positions are. And they must aspire, each room, to be as all comprising, as all rapport, with its nature. It must be itself without being named beforehand. If you name a room before it becomes a room, it dies; because it becomes just another item.<sup>128</sup>

There are two notable aspects to this quotation. Firstly, the sentence beginning “[a]nd they must aspire”, appears to be grammatically flawed in a number of ways. One error will be dealt with here. Kahn claims that a number of rooms should have a rapport with “its” nature, not *their* nature. However, should the personal pronoun, “its”, refer to the essence of all rooms, that is, to *The Room Itself*, then Kahn's use of the word “its” rather than “their” may not be faulty after all. According to a Platonic reading of the above quotation, a group of rooms should have a rapport with the



nature of *The Room Itself*. A choice of words which at first appears erroneous, may in fact betray Kahn's deeper intention, to emphasise that individual rooms should have a strong rapport with a universal conception like *The Room Itself*. The other notable aspect of the above quotation relates to Plato's tendency not to use adjectives in the titles of Forms. In the above quotation, Kahn does not entertain the thought that there may be separate "forms" corresponding to different kinds of rooms, be they dining rooms, living rooms or bedrooms. He simply refers to rooms, as though all rooms are the same. Paralleling Plato, Kahn only conceives of one "form" corresponding to rooms generally, which is comparable to *The Room Itself*.

The expression of distinct elements in Kahn's work is perhaps more apparent where he juxtaposes his typically elemental approach with an approach which attempts to fuse elements into new, hybrid entities. Such a juxtaposition occurs between the interior and exterior of Kahn's Phillips Exeter Library. As Mark Rakatansky describes it, there is a metonymical relationship between the various elements which meet at the perimeter of this building.<sup>129</sup> Carrel, window, blade wall and exterior wall are fused in an interdependent relationship of parts (Figure 32). Each element seems inextricable from the new ensemble.

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**Figure 32: Phillips Exeter Academy Library, typical reading carrel.**

In contrast, Rakatansky describes a metaphorical<sup>130</sup> relationship between the elements which face this building's central atrium space. The concrete shear walls, with their monumental circular openings, are independent of the timber lined balustrades and reading desks, both in terms of structure, meaning and visual expression. The concrete blade walls neither support the reading desks, contribute to their functioning, nor even touch them. The importation of the circular openings is extrinsic not only to the balustrades, but also the concrete walls from which they are cut. In every way these walls, their circular openings and the balustrades are conceived as autonomous elements in a manner which emulates the autonomy of those elements' corresponding Forms (Figure 33). Despite the power of the central space, Rakatansky personally prefers Kahn's metonymical approach to his handling of the library's atrium, which he finds to be crude by comparison.

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**Figure 33: Phillips Exeter Academy Library, circular openings facing atrium**

A remark made by Kahn in Aspen in 1972 highlights his view that an architect must intuit the nature of building elements from non-empirical sources. After speaking of elements — “[t]he roof, the floor [and] the ceiling are all really elements” — Kahn makes it clear that the elements in his own buildings are not derived from the types of resource books that architects typically use to quickly determine minimum and/or ideal dimensions for common elements, based on ergonomic necessity. Kahn refers to these kinds of resources as “graphic standards”.<sup>131</sup> Graphic standards will “tell you what a stair is alright”, Kahn states, “but it’ll never tell it to you as an architect must feel it”.<sup>132</sup> According to Kahn, the nature of an adequate flight of stairs cannot be ascertained empirically using means employed by those who compile graphic standards by measuring users and accounting for their safety. Rather, the nature of a flight of stairs needs to be *felt* by every architect faced with the design of a stair. For it to be possible for an architect to *feel* such facts, one of two conditions must apply. Firstly, knowledge of an appropriate stair may reside in an architect’s feelings. Alternatively, an architect’s feelings may provide a window on a realm of inspiration wherein lies the ideal stair. From arguments advanced in the previous chapter, Kahn’s ideal stair is likely to exist in a transcendent realm. What matters here is that for Kahn the “form” corresponding to stairs lies beyond the positivism of graphic standards.

In the manner in which they have been presented here, Kahn’s statements about elements are open to a Platonic interpretation. Elements in Kahn’s work can be viewed as instances of corresponding ideals, or Forms. As though they were Forms, Kahn uses singular terms when referring to building elements, as when he asks “brick” what it wants. As though it were a Form, “the fireplace” is spoken of as an entity with no actual size or spatial characteristics. Likewise “the stair” transcends its terrestrial use and cannot be known without the agency of a designer’s ineffable feelings. From this reading of Kahn’s theory, it can be suggested that his approach to the conception of elements is in keeping with the Platonic concept of participation. Now, in addition, it remains to be determined whether or not Kahn’s

expression of this theory through his built works is consistent with a Platonic reading as well.

Kahn's theory advocates a distinction between the elements of buildings. Buildings designed according to Kahn's theory would consequently appear to be assembled from elements. As the following section will highlight, Kahn's preference for elemental clarity is clearly displayed in his built works. To cite each reference to this tendency, in each of Kahn's buildings, by each Kahn scholar who makes this point, would be to overstate an obvious fact: elemental clarity is a defining characteristic of Kahn's work. In reference to his First Unitarian Church and School in Rochester alone, at least three scholars make firm statements to this effect. Kenneth Frampton notes that Kahn uses primary forms as the elemental parts of more complex compositions, adding that his church in Rochester is "his first didactic demonstration in this vein".<sup>133</sup> Robert Coombs describes Kahn's First Unitarian Church and School in Rochester as being composed of "forms which are separate and clearly defined with a kind of building block isolation of element from element".<sup>134</sup> Gerhard Auer makes a similar observation, also with regards to Kahn's church in Rochester.<sup>135</sup> The assertions of these scholars suggest that this building can be viewed as an assembly of elements, each instances of singular "forms".

According to a Platonic reading of this building, many instances of *The Brick Itself* are assembled (stacked/bonded) to create instances of *The Hood Itself* and *The Wall Itself*. Within the meeting space, instances of *The Block Itself* and *The Light Tower Itself* are the primary elements constituting an instance of *The Church Itself*, or perhaps *The Question Itself*. This central space is surrounded by instances of *The Room Itself*. Together, manifestations of the Forms listed, when assembled as Kahn has assembled them, can be seen to constitute what may be an instance of *The Unitarian Centre Itself*. Each of the statements made in this reading will now be examined in greater detail.

Every brick in the First Unitarian Church and School in Rochester is of a uniform size and dimension. Although uniform masonry units are the norm in

modern buildings, their presence here has some significance, since, to use Plato's terms, they are many, while their model, *The Brick Itself*, is one. Conceived as instances of their corresponding lionised interlocutors, each brick and each concrete block in Kahn's First Unitarian Church and School in Rochester is revealed and thus celebrated. The congregation in Rochester was particularly impressed by this aspect of their new building. While Le Corbusier pioneers the expression of materials "as found",<sup>136</sup> Kahn's clients in Rochester believed the honest expression of materials in their new church to be thoroughly revolutionary. A brochure printed by the congregation marvels at how

[t]he conventional building materials that generally are covered up with finish, or architectural decorations, are fully exposed to form whatever pattern of interest there is [...]. Cement blocks form the walls of the sanctuary and the groups of rooms surrounding the sanctuary [...]. Everything extraneous has been eliminated. The fundamentals of the structure have been exposed to remind us of the nature of things.<sup>137</sup>

Making a similar observation, Peter Smithson describes Kahn's honest expression of bricks in the de Vore House of 1955, as the employment of a "brutalist tool".<sup>138</sup> These impressions reflect Kahn's own preference for the palpable expression of masonry units, along with the other elements of a tectonic assemblage.

Possibly of interest from a Platonic standpoint are the hoods which Kahn assembles from masonry units in Rochester. Each hood is detailed in an identical manner. This suggests that the many hoods in this building may be conceived as instances of a common model. The same point can be made with respect to the brickwork walls, which also receive an identical treatment throughout. From a Platonic standpoint, Kahn's uniform treatment of hoods and walls can be thought to reflect an unchanging conception of *The Hood Itself*, and *The Wall Itself*, in which the corresponding elements in Kahn's Unitarian church participate.

Similar interpretations can be made regarding Kahn's assemblage of blocks, columns and light towers to produce a church, sanctuary, or instance of "Question" at the building's core. Kahn's identical treatment and radial distribution of light

towers is especially telling. Were it not for an overriding desire to assemble identical components to create cohesive new wholes, Kahn may have orientated the clerestory windows of these towers to face the southern sky and the sun. However, his wish to dispose identical parts in relation to a radially symmetrical whole appears to dictate that these clerestory windows face the building's central axis. Were they to face south, their difference in relation to the whole would dominate any reading of them. As Kahn has arranged them though, they are conducive to a Platonic reading which views each tower as an identical instance of one Form, *The Light Tower Itself*.

Kahn assembles his light towers, window hoods, walls, rooms, sanctuary, blocks, bricks and other elements in such a way that the combined whole can be thought of as an instance of *The Unitarian Centre Itself*. This analysis of the whole project affirms Kahn's conception of "form" as a relationship of inseparable parts. As he states in a lecture at Berkeley in 1966,

my concern [is] with trying to find those '[f]orm Elements':  
[f]orm to me means the inseparable parts of something —  
[...] the realization of the inseparable parts — it has nothing to do with  
'design' whatsoever.<sup>139</sup>

While the re-use of similar plan types for buildings of different class names might detract from a Platonic interpretation of Kahn's theory, the exact replication of certain architectural elements in many of his works strongly suggests that he views such things as his vaults, windows and rooms as instances of "forms" corresponding to their class names. This interpretation is supported by a remark which Kahn makes in reference to an image during his aforementioned lecture in Berkeley.<sup>140</sup> Presumably referring to a hollow column in an earlier work,<sup>141</sup> Kahn tells his audience

[t]hat's a very old [slide], too. I bring you this [slide] because [...] it  
[illustrates] an elemental realization, which, when once in your mind, you  
never 'think' but repeating it, because in its repetition lies its beauty.<sup>142</sup>

After realising the nature of an element, Kahn feels free to repeat it thereafter,

automatically. In the statements which immediately follow the above quotation, Kahn attributes a timeless quality to elements. As he conceives them, elements do not accommodate what he refers to as circumstantial factors. In other words, they are timeless, as Forms are.

Whether it is to speed the design process or as a matter of style, many architects develop a repertoire of standard details, or signature motifs. However, the literal replication of complex elements in many of Kahn's projects suggests an intent which goes beyond expediency or a desire to have an identifiable style. One striking example of a replicated element in Kahn's work is his use of a vault identical to the one developed for the Kimbell Art Museum of 1966 to 1972 (Figure 34) for his Wolfson Centre for Engineering at the University of Tel Aviv which was designed between 1971 and 1974 (Figure 35). As David Brownlee observes, Kahn cannot resist copying the success of his Kimbell vault,<sup>143</sup> proposing it (without success) to the clients of two later buildings: the Yale Centre for British Arts and British Studies and the unbuilt De Menil Foundation in Houston.

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**Figure 34: Kimbell Art Museum, section through**

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**Figure 35: Wolfson Centre, section through vault.**

Of Kahn's personal acquaintances, few (with the possible exception of Vincent Scully), would see him as one prone to copying, or referencing, other works in the manner now associated with post-modernism. Imbued as he is with the modernist imperative to invent, Kahn is not likely to reference either another's work or his own, especially when that reference is to such a conspicuous element as his Kimbell vault. It is more likely that Kahn views his initial realisation of that vault as a *discovery*, or an *uncovering* through refinement, of a "form", gallery roof (no "a"), or *The Gallery Roof Itself*.

Under the banner of his "form and design" theory, signature motifs in Kahn's work can be viewed as manifestations of "forms", especially where those motifs have the character of irreducible solutions to common functional situations. The composite arch featured at the Indian Institute of Management (Figure 36), and his Performing Arts Theatre in Fort Wayne, Indiana (Figure 37), has that character. Key-hole windows, the ventilation alcoves used in his houses, and his so-called hollow columns, can all be interpreted this way.



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**Figure 36: Indian Institute of Management, detail of Kahn's composite order  
between brick arch and concrete tie.**

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**Figure 37: Performing Arts Centre, Fort Wayne.**

Since Kahn extends his theory of “form and design” to the conception of elements — as he does by extending his analogy of the spoon to the conception of “everything we make”, and by describing his conception of laboratory exhaust ducts as a realisation in “form” — many of the elements in his buildings can be thought of as instances of corresponding “forms”. Just as he re-uses plan types for buildings of similar class names, Kahn also replicates distinctive elements, as though they were based on realisations or discoveries of things universal. Viewed in terms of

Platonism, this approach to the design of elements can be thought of as an extension of the doctrine of participation.

### ***The Human Itself and Gravity Itself***

There are two aspects of Kahn's work which at first seem to defy Platonic interpretations. The Form realm is autonomous of individual people and it is above and beyond such earthly constraints as gravity. Yet certain elements in Kahn's buildings, especially his joinery, speak of real people, reaching out to hold a hand rail or leaning against a dado. Shouldn't a Platonic architect seek to de-anthropomorphize works of architecture,<sup>144</sup> or give fewer indications of the size and proportion of a human inhabitant, by suppressing such things as doorways, steps, balustrades or built-in furniture? Rather than appearing to be firmly rooted to the ground, shouldn't Kahn's buildings be more like Gerrit Rietveld's Schröder House, for example, and allude to a transcendent realm by appearing to defy gravity?

Danto addresses this apparent incongruency between Kahn's and Plato's approach to craftsmanship, first arguing that Kahn's "form" relating to spoons "serves as a portrait of the body that uses it, made with hand, arm, and mouth."<sup>145</sup> However, later in his essay, Danto makes it clear that this perceived dependence on corporeal reality, in no way diminishes the otherworldliness of Kahn's "forms". Indeed, it is an integral aspect of *The Bed Itself* in Plato's own parable of the bed maker. Danto argues that

in the realm of Pure Eternal Forms — in what Plato and Saint Paul after him certainly think of as heaven — is the archetype of that article of furniture which underscores, if anything does, our frailty, our vulnerability, and our fleshly needs. In bed we're born, in bed we die; in bed we laugh, in bed we cry. And eight of our daily hours are spent in restoration of our raveled energies. So Bed-capital-B internally refers to human requirements, just as the Platonic spoon refers to our having a mouth, and the bed is a symbolic portrait of one of the conditions of being human. The same of course is true of House-capital-H. The very essence

of the house is constructed in the image of our weakness and needs. To be human is to need a roof over one's head and walls against the world[...]. So any house, like any bed, is already Platonic enough, without having to possess sharp vertices and impeccable proportions.<sup>146</sup>

In the following chapter it will be shown that there are a number of ways in which otherworldly looking buildings can be interpreted in terms of Plato's philosophy. However, it remains that the craftsman's bed in *The Republic* is an object designed to support the weight of a resting human body. The craftsman's bed is modelled on *The Bed Itself*, and in the Form realm it can be imagined that another Form, *The Human Itself*, lends its proportions to *The Bed Itself*. While the Form realm may not be a gravitational environment, the idea of *Gravity Itself* nonetheless informs all those Forms whose participants will be required to resist phenomenal gravity when put to use on Earth.

The following passage from "Form and Design" can be viewed in the light of the relationship which *The Bed Itself* must have with a Form such as *The Body Itself*. In it Kahn relates the "form" of House (no "a"), not to the individual corporeal needs of one particular human, but to the needs of users generally. In other words, "a house" owes more to the "form" of House, with its dependence on an aggregation of users, than it owes to the circumstantial requirements of any one user.

Reflect then on what characterizes abstractly House, a house, home. House is the abstract characteristic of spaces good to live in. House is the form, in the mind of wonder it should be there without shape or dimension. A house is a conditional interpretation of these spaces. This is design. In my opinion the greatness of the architect depends on his powers of realization of that which is House, rather than his design of a house which is a circumstantial act. Home is the house and the occupants. Home becomes different for each occupant.

The client for whom a house is designed states the areas he needs. The architect creates spaces out of those required areas. It may also be said that this house created for this particular family must have the character of being good for another. The design in this way reflects its trueness to [f]orm.<sup>147</sup>

In keeping with the Platonic notion that *The Bed Itself* must accommodate an ideal user, Kahn equates a building's "trueness to [f]orm" with its ability to accommodate his conception of a typical, or ideal user. The notion of a range of users bringing into being one typical or average user for whom an architect should design, informs Kahn's conception in 1972 of the "form" corresponding to stairways as well. He extols his audience to

think of a stairway as an inseparable part of [the "form" of] a two storey area. You know that each riser and tread must be as accurate as a micrometer caliper. Because the young guy, who wants to climb the three storeys in no time flat, must be led by the rhythm of the stair and trust it, so he cannot fail because he has all the powers of coordination and depends on it. And the same stair must be good for the child, for the young man and for the old person.<sup>148</sup>

Kahn's focus on typical or average bodies within his buildings leads Dana Cuff to state that Kahn's Kimbell Art Museum is planned for an idealised user, but "without taking into account patterns of daily life".<sup>149</sup> In the case of this building, Kahn anticipates most arriving by foot across a gravel covered courtyard but he ignores the reality that those arriving by car approach this building from behind and below.

Just as the Form corresponding to beds in *The Republic* is informed by *Gravity Itself*, the concept of gravity also informs Kahn's conception "forms". Although Kahn insists that it does not represent a shape or a dimension, his "form" diagram for The First Unitarian Church and School in Rochester does represent a *plan*, since nowhere in his sketches relating to this project does Kahn explore the possibility of applying this diagram in section or in elevation. Although abstract, the concentric lines of this diagram represent not only enclosure, but load-bearing walls. His "form" for this church may have no dimension or shape, but it does take account of gravity.

## City Planning

Nearing the end of “Form and Design”, Kahn’s attention begins to turn from the “forms” corresponding to individual buildings and their elements towards the definition of a “form” corresponding to cities as a whole. This occurs in three passages. The first is concerned with the emergence of a contemporary “form” for cities, one that accommodates motor cars.

The motor car has completely upset the form of the city. I feel that the time has come to make the distinction between the Viaduct architecture of the car and the architecture of man's activities. The tendencies of designers to combine the two architectures in a simple design has confused the direction of planning and technology. The Viaduct architecture enters the city from outlying areas. At this point it must become more carefully made and even at great expense more strategically placed with respect to the centre.

The Viaduct architecture includes the street which in the centre of the city wants to be a building, a building with rooms below for city piping services to avoid interruption to traffic when services need repair.

The Viaduct architecture would encompass an entirely new concept of street movement which distinguishes the stop and go staccatto movement of the bus from the ‘go’ movement of the car. The area framing expressways are like rivers. These rivers need harbours. The interim streets are like canals which need docks. The harbours are the gigantic gateways expressing the *architecture of stopping*. The terminals of the Viaduct architecture, they are garages in the core, hotels, and department stores around the periphery and shopping centers on the street floor.

This strategic positioning around the city centre would present a logical image of protection against the destruction of the city by the motor car. In a sense the problems of the car and city is war, and the planning for the new growth of cities is not a complacent act, but an act of emergency.

The distinction between the two architectures, the architecture of the Viaduct and the architecture of the acts of man's activities, could bring about a logic of growth and a sound positioning of enterprise.<sup>150</sup>

Kahn’s vision of an archetypal car-dependent city is not dissimilar to his aforementioned conception of “laboratory” (no “a”) for his Richards Medical

Building. In the case of Kahn's laboratory "form", humankind's acquisition of two new technologies, the crane and the duct, can be thought of as precipitating Kahn's realisation of a "form" which had previously been lying dormant with no earthly participants. Since it describes an ideal relationship between inseparable yet distinct parts, Kahn's laboratory "form" provides ample space for ducts so that they needn't intrude on spaces designated for human habitation. Likewise, Kahn's vision for car-dependent cities allows enough space and resources to vehicular traffic so that cars need not impinge upon pedestrian areas.<sup>151</sup>

A slightly more illuminating dialogue can be developed between *The Republic* and Kahn's two remaining passages about city planning. In the first of these passages, it is argued that city halls are lacking and that the essence of a simple meeting place was once captured better by meeting places within village greens.

The institutions of cities can be made greater by the power of their architectural spaces. The meeting house in the village green has given way to the city hall which is no more the meeting place. But I sense an existence will for the arcaded city place where the fountains play, where again boy meets girl, where the city could entertain and put up our distinguished visitors, where the many societies which uphold our democratic ideals can meet in clusters of auditoria in the city place.<sup>152</sup>

Here Kahn argues that civic institutions and the buildings which house them should not lose sight of their origins in simple spaces (like the village green), which may even perform such functions better. As with his parable of schools beginning with a meeting beneath a tree, here Kahn extols village greens as presenting a clearer image of the essence of meeting. Recalling his comparison between Paestum and the Parthenon,<sup>153</sup> Kahn champions village greens over city halls, as the former are closer to the transcendent essence of meeting.

Kahn's interest in meeting places, or places of assembly, reflects a social vision comparable to Plato's. In *The Republic* (462b) Plato asks "[i]s there anything worse for a state than to be split and fragmented, or anything better than cohesion and unity?"<sup>154</sup> Plato's plan for social unity includes such radical measures as the

dissolution of the family unit and the sharing of women and children (463e). While being modest by comparison, well planned civic meeting places of the kind Kahn alludes to would be a welcome inclusion in Plato's republic.

It is with his praise of democracy though, that Kahn reveals an aspect of his thinking which is quite different from Plato's. Essentially, the above quotation argues that the civic realm should express "our democratic ideals". Considering a democracy had executed Socrates and that in *The Republic* (555b-562a) Plato berates democracies for encouraging greed and unbridled individualism, Kahn's urban vision is, in this sense, the antithesis of Plato's.<sup>155</sup> However, looking beyond Kahn's mention of democracy — which is no doubt influenced by the Cold-War climate in which he writes — the above passage still promotes civic unity. While their politics may differ, Kahn and Plato share a common hope for a unified civic realm.

"Form and Design" concludes with the suggestion that there is a "form" on which cities should be modelled.

An architect from India gave an excellent talk at the University about the fine new work of Corbusier and about his own work. It impressed me, however, that these beautiful works he showed were still out of context and had no position. After his lecture I was asked to remark. Somehow I was moved to go to the blackboard where I drew in the centre of the board a towering water tower, wide on top and narrow below. Like the rays of a star, I drew aqueducts radiating from the tower. This implied the coming of the trees and fertile land and a beginning of living. The buildings not yet there which would cluster around the aqueduct would have meaningful position and character.

The city would have form.<sup>156</sup>

If cities are to have "form", then how might the "form" of city (no "a") be described? It is unlikely that Kahn could believe that all cities should radiate about large water towers, but it would be consistent with his penchant for radial planning to conclude that cities, according to Kahn, should radiate about something. Since the water tower in Kahn's anecdote is described in poetic terms, it could loosely be

interpreted as a particular city's *raison d'être*, which becomes its physical and symbolic focus.

It has been seen already that Plato's *Laws* (848), a later dialogue, describes a radial city vaguely like the one Kahn outlines at the conclusion of "Form and Design", but does *The Republic* describe a similar city? Many commentaries on *The Republic* refer to its plan for an ideal city. Pappas argues that *The Republic* belongs to a tradition of city planning which begins with Hippodamus.<sup>157</sup> Such references can be misleading since *The Republic* contains no physical description of an ideal city at all. It is essentially an inquiry into just governance and the tradition it belongs to is primarily one of writing political constitutions. The only passage in *The Republic* which remotely resembles town planning comes in Book 2 (368a-372d). There Plato outlines a rudimentary community structure, whereby citizens are given different duties according to their aptitude. He identifies five classes: agricultural and industrial producers; merchants; sailors and ship owners; retailers; and salaried labourers. Even then, Plato only discusses the structure of a basic community in order to distil from it a vision of justice. Justice exists in human souls and in communities, he claims (368d-e), but in the larger of these two subjects it is easier to recognise (369a). In discussing the essential elements of an urban community, Plato does not suggest a physical plan for utopia, any more than his parable of the bed maker — which is actually an analogy for good and bad poetry — contains instructions on how to make a bed. *The Republic* certainly does not contain a town planning vision which can be compared to Kahn's sketch of a city radiating from a water tower.

While "Form and Design" and *The Republic* can hardly be thought of as parallel texts on urban planning, there remains one notable similarity between the authors of these texts. Neither Plato nor Kahn doubts the superiority of city life, each choosing to live in cities and each making the betterment of cities, be it political or physical, the final goal of his inquiries. One of Plato's fundamental premises in *The Republic* is that societies originate "because the individual is not self-sufficient, but



has many needs which he can't supply himself".<sup>158</sup> This premise represents the need for cities and therefore the need for just governance, and ultimately, Plato's reason for writing *The Republic*. Kahn worked on urban design proposals, mostly for Philadelphia and, as Peter Reed points out, mostly "without contracts or remuneration",<sup>159</sup> throughout his career. That "Form and Design" should culminate with passages concerning city planning reflects one of Kahn's greatest yet largely unrealised ambitions, to influence city planning.

### **The Problem of "The Third Man"**

It has been seen that Kahn goes to great lengths to distance "forms" from their corresponding "designs". By describing "forms" as entirely different kinds of entities to "designs", Kahn's design theory conveniently avoids a problem of infinite regress to which the theory of Forms would ultimately lead Plato.

Plato's *Parmenides* raises what Aristotle would refer to as the problem of the third man. Plato, speaking through Parmenides, reflects on his theory and finds that Forms cannot be instances of themselves without causing a problem of infinite regression. For example *The Circle Itself* cannot be circular, which is to say that it cannot be an instance of circularity. Were *The Circle Itself* actually circular then both that Form and the many phenomenal circles modelled on it would all partake of another essence, or Form, pertaining to circularity. Paraphrasing *Parmenides*, Ross explains that "if a particular is a copy of a Form, it must be by virtue of their sharing in a common nature, which will be the real Form, and so there will be Form above Form *ad infinitum*".<sup>160</sup> In answer to this problem, Ross insists "that the relation of particulars to the universal is a unique relation, and that both 'resembling' and 'sharing' are inadequate metaphors for it".<sup>161</sup> Even Plato's convention to describe a Form as *The X Itself* is seen to imply that particulars are copies of Forms, and that, for example, *The Circle Itself* is just as much an instance of circularity as any physical circle. Inadequate as they may be, Plato continues to use metaphors

suggestive of copying, or modelling, with the understanding that these are merely metaphors. However, it would be more accurate to think of Forms, not as models, but as recipes for the making of particular things.<sup>162</sup> A recipe for a cake contains everything which is needed to make a cake, but it cannot itself be called a cake. According to the recipe analogy, *The Circle Itself* would not be circular. Expressed as a recipe for circles, *The Circle Itself* could simply describe a line equidistant from a point. Following the principles of dialectic as outlined in *The Republic*, this definition could be thought of as a Form if it is true for all instances.

Writing recipes for building types is far more challenging than doing the same for elementary geometrical figures, but so too is defining *Justice Itself*, the central problem of *The Republic*. While in the present context, it would be impossible to properly refine a building related definition by applying the tool of dialectic as Socrates would, following is an example of what the recipe for a building type might look like: “*The House Itself* consists of a series of discrete spaces linked by a single circulation route. These spaces are tailored for sleeping, cooking, washing, eating and recreating in small groups”. Would such a proposition survive the application of dialectic? Most likely not, but at least it does not portray *The House Itself* as something which is an instance of houseness.

In terms of a spatial plan or diagrammatic layout, neither does *The Republic* portray the ideal republic (*The Republic Itself*) as something which could be compared with a higher essence related to republics or cities. Where a diagram could possibly be derived from the above recipe for houses, *The Republic* is so removed from a spatial conception as to allow for no kind of diagram whatsoever. Françoise Choay, who it has been seen makes this point quite forcefully, combs *The Republic* for any possible reference to spatial relationships.<sup>163</sup> Socrates claims that the state should neither be too large or small (423c), and he also advocates population control (372 and 373b). Private houses which deny entry to the public are banned (416d), and finally, the guardians are prohibited from travel (419). What these scant examples of spatial relationships indicate, is that Plato does not have a diagram or

spatial plan in mind when he conceives the model state. As a result, no diagram could possibly be drawn based on his description which could be confused with a higher essence in which both terrestrial cities and *The Republic Itself* might participate.

While, on one level, Kahn's insistence that "form" has no shape seems to be a post-rationalisation of events in Rochester, it is interesting that this position leads to descriptions of "forms" which read very much like recipes. Arbitrarily shaped diagrams could be drawn from Kahn's descriptions, but when viewed in terms of the problem of the third man, it is significant that Kahn leaves this step to others. For example, in "Form and Design" Kahn writes that the "form" of chapel (no "a")

may be expressed by a place which for the moment is left undescribed and has an ambulatory for the one who does not want to enter it. The ambulatory is surrounded by an arcade for the one who prefers not to go into the ambulatory. The arcade sits in the garden for the one who prefers not to enter the arcade. The garden has a wall and the student can be outside winking at it. The ritual is inspired and not set and is the basis of the form Chapel.<sup>164</sup>

In words, Kahn describes the chapel "form" as having a central space, wrapped by as many as four buffers: an ambulatory, an arcade, a garden and a garden wall. Where a diagrammatic representation of this form would necessarily imply shapes for each of these elements, Kahn's description in words could remain true of any chapel, no matter what shape it is.

"Form and Design" also contains the following recipe for schools.

In school as a realm of spaces where it is good to learn, the lobby measured by the institute as so many square feet per student would become a generous Pantheon-like space where it is good to enter. The corridors would be transferred into classrooms belonging to the students themselves by making them much wider and provided with alcoves overlooking the gardens. They would become the places where boy meets girl, where the student discusses the work of the professor with his fellow-student. By allowing classroom time to these spaces instead of passage time from class to class, it would become a meeting connection and not merely a corridor, which means a place of possibilities in self-learning. It

becomes the classroom belonging to the students. The classrooms should evoke their use by their space variety and not follow the usual soldier-like dimensional similarity, because one of the most wonderful spirits of this man under the tree is his recognition of the singularity of every man. A teacher or a student is not the same when he is with a few in an intimate room with a fireplace as in a large high room with many others. And must the cafeteria be in the basement, even though its use in time is little? Is not the relaxing moment of the meal also a part of learning?<sup>165</sup>

Kahn's word description of the ideal school includes a Pantheon-like lobby, wide corridors with alcoves overlooking gardens, varied classroom spaces suitable for large or intimate gatherings and an above-ground cafeteria.

While confirmed "form" diagrams cannot be positively identified from Kahn's sketch books, many more recipes like these can be found in his texts. Unlike his diagrammatic representation of the Unitarian centre "form", which needed continual qualification, verbal or textual descriptions of "forms" cannot be confused with actual designs or shapes intended for plans. The obvious benefits of using words rather than drawings to describe "forms", may explain why Kahn appears to avoid the use of "form" diagrams after his work in Rochester, preferring to describe ideal planning strategies using words.

## **Chapter Summary**

It is perhaps unfortunate that much of the discourse in architecture which draws on Platonic texts also ignores the implications of participation for the discipline. Within architectural discourse, the otherwise straightforward notion that particulars, such as buildings, should participate in Forms corresponding to their class names, has been obscured by other so-called Platonic theories of architecture.

Kahn's "form and design" theory outlines a relationship between "forms" and particular "designs" which, at a fundamental level, parallels the participatory relationship between Forms and particulars described by Plato. It is when deeper

questions are asked that undeveloped issues in *The Republic* and Kahn's inconsistencies with that dialogue and between his own theory and practice, come to the fore.

Do the ascetic underpinnings of *The Republic* place that dialogue at odds with Kahn's text, when the latter is concerned with the physical world? Or is Kahn's focus on architecture beyond the scope of *The Republic*? It has been seen that Kahn's ultimate concern for the physical world and his conception of buildings as instances of architecture related "forms" do not detract from a Platonic interpretation of his text, since Plato wants for a better physical world and such a world would feature buildings faithfully modelled on Forms. Neither do Kahn's conceptions of modern, future and insalubrious "forms" detract from a Platonic reading of "Form and Design".

Consistent with Plato's view that particulars are the namesakes of corresponding Forms, specific planning arrangements and elements within Kahn's buildings appear to be conceived as instances of "forms" with corresponding names. For instance, "a school" is an instance of what Kahn calls "school" and what Plato would call *The School Itself*. However, Kahn's conception of a "form", "Unitarian Centre", which is not universal, but which is specific to a particular religious denomination, is atypical of the Forms which Plato considers.

Consistent with Plato's description of Forms as one and particulars as many, Kahn reuses "forms" which have been realised for prior commissions. Kahn's apparent reuse of his Unitarian centre "form" for houses, dormitories and political assembly buildings would at first suggest that, in practice, he contravenes Plato's doctrine of participation. However, if the central spaces of his other concentric buildings are thought of as participants in non-architectural Forms — *Assembly Itself*, for example — then similar looking buildings within his oeuvre can nonetheless be thought of as participants in distinct "forms".

While *The Republic* contains a political constitution and not a town plan, there are some parallels between Kahn's and Plato's urban visions. Kahn's interest

in civic meeting places parallels Plato's overriding concern for civic unity. Kahn also views particular cities as instances of a corresponding "form", be that called "city", "post-car city" or *The City Itself*. Kahn and Plato also share an implicit faith in city life.

Just as Plato's theory of Forms has inherent within it a problem of infinite regression if Forms and particulars are seen as instances of super-Forms, there are problems with Kahn's "form and design" theory when "form" diagrams and particular buildings share a common essence, for example, a radially symmetrical distribution of cellular spaces. Kahn overcomes this by representing "forms" with recipe-like descriptions which share none of the characteristics of buildings but which describe their "forms" completely.

Overall, this chapter has highlighted the fact that Plato's theory of Forms has only an indirect relationship to architecture. *The Republic* and Plato's other dialogues do not develop the theory of Forms to the point where it can be directly enlisted in the interpretation of Kahn's "form and design" theory. A greater appreciation of Kahn's theory can be gained through a Platonic interpretation of his text, but that appreciation relies on a conjectural vision of Plato's theory as it can be applied to architecture. Is the vision which has been presented here in the spirit of Plato's inquiry? If it is not, then neither is Danto's comparison between Kahn and Plato in the spirit of Platonism and neither could Kahn compare himself to Socrates. The extrapolation of Plato's theory which has been undertaken has been conservative, restrained, and, for practical reasons, limited to accepted interpretations.