Towards MultipliCity — Burlington, Vermont: a strategy of design advocacy

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B.S.E.D. University of Washington, Seattle, 1978

Submitted to the Department of Architecture in partial fulfillment of the requirements for the degree of
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"All men in their native powers are craftsmen, whose destiny it is to create... a fit abiding place, a sane and beautiful world."

Louis Henry Sullivan,
January 27, 1924
Abstract
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The thesis has been an exploration within an attitude towards urban design. This attitude is structured on a belief, in the necessity for inclusive thinking and appreciation of the multiple phenomena of life, as the basis for a design process which seeks to understand and transform the form of a city. In the evolution of the thesis a methodology for urban analysis has been developed and its implications explored through an investigation of alternative urban forms for the city of Burlington, Vermont. The methodology seeks to develop a range of informed positions towards an appropriate city form through multiple advocacy design projections, as well as multiple syntheses of these. It is felt that this kind of analysis is a necessary ingredient for an urban design process which attempts inclusiveness.

Thesis Supervisor: John R. Myer
Title: Professor of Architecture

The thesis is concerned with the city and its potential... the city and its structure, its meaning, and its use... the order that defines and binds the parts... of the city and its form.

The thesis is concerned with continuity as an aspect of all form and order and use and meaning and structure in the city.

The thesis is also concerned with discontinuity as an aspect of all form and order and use and meaning and structure in the city.

MultipliCity is an idea of city which embraces the continuity and discontinuity of the inclusive and multiple experience of life.
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What guarantees the objectivity of the world in which we live is that this world is common to us with other thinking beings. Through the communications that we have with other men we receive from them ready-made harmonious reasonings. We know that these reasonings do not come from us and at the same time we recognize in them, because of their harmony, the work of reasonable beings like ourselves. And as these reasonings appear to fit the world of our sensations, we think we may infer that these reasonable beings have seen the same thing as we; thus it is that we know we haven't been dreaming. It is this harmony, this quality if you will, that is the sole basis for the only reality we can ever know. 35

Govinda said: "Nirvana is not only a word, my friend; it is a thought."

Siddhartha continued: "It may be a thought, but I must confess, my friend, that I do not differentiate very much between thoughts and words. Quite frankly, I do not attach great importance to thoughts either. I attach more importance to things. 18

The value of this thesis lies in the process of having done it.
“Are we lost?” asked Milo once again.

“H-h-m-m-m,” said the man, scratching his head. “I haven’t had such a difficult question in as long as I can remember. Would you mind repeating it? It’s slipped my mind.”

Milo asked the question for the fifth time.

“My, my,” the man mumbled. “I know one thing for certain; it’s much harder to tell whether you are lost than whether you were lost, for, on many occasions, where you’re going is exactly where you are. On the other hand, you often find that where you’ve been is not at all where you should have gone, and, since it’s much more difficult to find your way back from someplace you’ve never left, I suggest you go there immediately and then decide. If you have any more questions, please ask the giant.” And he slammed his door and pulled down the shade.

“I hope you’re satisfied,” said Alec when they’d returned from the house, and he bounced to his feet. 23
Life is a magic show and they are using mirrors.

"This," he said, handling it, "is a stone, and within a certain length of time it will perhaps be soil and from the soil it will become plant, animal or man. Previously I should have said: This stone is just a stone; it has no value, it belongs to the world of Maya, but perhaps because within the cycle of change it can also become man and spirit, it is also of importance. That is what I should have thought. But now I think: This stone is stone; it is also animal, God and Buddha. I do not respect and love it because it was one thing and will become something else, but because it has already long been everything and always is everything. I love it just because it is a stone, because today and now it appears to me a stone. I see value and meaning in each one of its fine markings and cavities, in the yellow, in the grey, in the hardness and the sound of it when I knock it, in the dryness or dampness of its surface. There are stones that feel like oil or soap, that look like leaves or sand, and each one is different and worships Om in its own way; each one is Brahman. At the same time it is very much stone, oily or soapy, and that is just what pleases me and seems wonderful and worthy of worship. But I will say no more about it. 18

The thesis is broad and still it is probably too focused. The opportunity to take this position is rare. Thus the thesis.

Man obviously cannot grasp the universe in one fell swoop. In order to even begin to comprehend the world around us, we usually resort to breaking out little segments for observation one at a time. Scientific knowledge is gained through such an analytic procedure. Before we become too enthusiastic about treating human beings in a "scientific manner," managing companies on a "scientific basis," operating the government in a "scientific fashion," or organizing our lives through a "scientific approach," as many are now urging, we should explore this abstractive scaffolding of the scientific method.

By treating things in the abstract, we mean that they are comprehensible without reference to some other item. Being abstract transcends concrete occasions, although this does not necessarily imply that the dissociated thing and the enveloping context are not connected. The degree of abstraction may vary. We may be more or less restrictive. For example, we progressively extend the abstractive as we proceed along the following series: baseball player, athlete, man, animal, and life. 40
The thesis experience is an intensive time of challenge and wonder in which we find ourselves (as students) in a position of self-defined responsibility. Throughout our formal education we are given the freedom to mold our own interpretations and priorities but always within a framework of thought which is imposed from without. This frame is set in an explicit way by an individual design instructor during a semester's work. Simultaneously, there is a deeper strain of thought--more continuous--which is fundamental to the particular institution's curriculum and staff. The combination of such explicit and implicit experiences per-

Words do not express thoughts very well. They always become a little different immediately they are expressed, a little distorted, a little foolish. And yet it also pleases me and seems right that what is of value and wisdom to one man seems nonsense to another.” 18

For architects, a little stunned by the mass of people, there are two paths: either to think about solutions or to think about problems. The first is a dead end, we know it, we can see the proofs all around us. It is looking backwards, because if we say, 'solutions' we say, 'knowledge, and what we know is already old hat. To think 'problems' means to look to the future.

Shadrach Woods
Team 10 Primer

Always the beautiful answer who asks a more beautiful question
e.e. cummings (1959)
The thesis has been for me a time to question some of the implicit foundations of my architectural education. To really look through my baggage and see what I've got. And to look beyond to see what else is out there.

The question of "what it is", occupies much of our mental capacity. The opportunity to answer this for its own sake is a sadly seldom affair. Thus the thesis.

meates and structures our architectural reality, and with this range of understanding we find ourselves in confrontation with the thesis.

At this point, there is a choice of what to take with us to accomplish the task which we set for ourselves. There are three options: (1) to develop a deeper understanding of some explicitly set principle and approach; (2) to push a synthesis of multiple explicit approaches in a pre-defined direction; and (3) to re-examine the implicit foundation and to selectively draw upon the new range of discernible fragments taking them in concert towards some as-yet personally unexperienced end. Any thesis will, no doubt, range between this loose classification of categories, but the differences are in where the emphasis of exploration is applied. To believe, as choice (3) implies, that one can sufficiently undermine the a priori value system inherent to our architectural thought is a bit naive, for even that which we choose to question and transform is still rooted in our personal understanding of some acceptable reality. Yet the third option seems to be a necessary ingredient of any
study which intends to be inclusive. This thesis, then, is more aligned with the third position in a way which can be informed by the other two.

This thesis started as an immodest effort to redesign the city of Burlington, Vermont. It is felt that the problems of the city could be ameliorated through the integration of a new system of pedestrian access and public spaces and buildings. A new ordering of the city which would develop continuities—both real and virtual—for the pedestrian throughout the extent of the city and between the city and its larger context. The city requires some new structure of public path and place which could revive the lost sense of a dynamic urban experience.

Rooted in an invariably superficial analysis, the next step was the leap to a methodology of ordering the physical elements of architecture. These were developed from a previously accepted and preferred set of architectural responses as well as some new explorations of physical form. The resultant project ("C of the design exercises) is a total rehab of the
Wisdom is not communicable. The wisdom which a wise man tries to communicate always sounds foolish."

"Are you jesting?" asked Govinda.

"No, I am telling you what I have discovered. Knowledge can be communicated, but not wisdom. One can find it, live it, be fortified by it, do wonders through it, but one cannot communicate and teach it. I suspected this when I was still a youth and it was this that drove me away from teachers. There is one thought I have had, Govinda, which you will again think is a jest or folly: that is, in every truth the opposite is equally true. For example, a truth can only be expressed and enveloped in words if it is one-sided. Everything that is thought and expressed in words is one-sided, only half the truth; it all lacks totality, completeness, unity.

Tree of wisdom, nothing of the kind exists,
Not even a mirror on its stand.
There is nothing whatsoever to be real,
So how should there be anything for dust to settle on? 16

Most Americans believe that the world is progressing toward a more valuable state as a result of the steady accumulation of human knowledge and techniques. We also believe that the individual exists as an autonomous entity, that nature has an order to it, that scientific observation is objective, that people have always desired private property, that competition between individuals has always occurred, and so on. In fact, all these beliefs are considered to be part of "human nature" and therefore immutable. Of course, they are not, and other societies and civilizations at other periods in history would simply be unable to comprehend some of the notions we ascribe to human nature. That is the power of a world view. Its hold over our perception of reality is so overwhelming that we can't possibly imagine any other way of looking at the world. 37

The feedback I received on the project could be broken down into a critique of the work done within the approach I had taken and as to the validity of the approach altogether. Invariably, each reviewer would have accepted a somewhat different set of issues and facts and interpreted them differently and thus arrived at a wholly different physical projection.

So who's "right?" Which approach is "better?" The point is that these questions are irrelevant. For it is relative to who and what that such evaluations are at all definitive. Thus any project, especially one at the scale of the city, will be both right and wrong. And any singular effort to solve such a set of complex issues/problems that are presented in a city will be plagued by this apparent arbitrariness.

Facts are the backbone of any disciplined thought process. The problem-solving task, as a tool we use for understanding our world, involves the structuring of known facts to form an hypothesis which is then tested against
experience (real and assumed). The performance of this hypothesis is evaluated through other fact-based axioms of truth, transformed and reasserted until as many as possible disallowed contradictions are resolved. The compulsiveness of the process will provide a greater and greater refinement of the conclusion.

Yet the difficulty remains as to the initial choice of facts, for a choice is always made out of an infinite field of other potential and contradicting facts which, when assembled, might provide a similar level of non-contradiction. Thus the selection of facts is merely a result of the observer's own predilections or acceptance of some existing "world view" with its own hierarchy of facts. Design, then, is a direct product of personal or collective convention. And we find in existence such a range of accepted convention throughout history and concurrently in our own time. It seems then presumptuous to so readily reject the directions taken by others in the field who have in fact worked as compulsively, yet starting with a different set of facts. Enormous efforts have been made by brilliant people to

Poincaré concluded that the axioms of geometry are conventions, our choice among all possible conventions is guided by experimental facts, but it remains free and is limited only by the necessity of avoiding all contradiction. Thus it is that the postulates can remain rigorously true even though the experimental laws that have determined their adoption are only approximative. The axioms of geometry, in other words, are merely disguised definitions.

Then, having identified the nature of geometric axioms, he turned to the question, Is Euclidean geometry true or is Riemann geometry true?

He answered, The question has no meaning.

As well ask whether the metric system is true and the avoirdupois system is false; whether Cartesian coordinates are true and polar coordinates are false. One geometry can not be more true than another; it can only be more convenient. Geometry is not true, it is advantageous. 35

Poincaré then went on to demonstrate the conventional nature of other concepts of science, such as space and time, showing that there isn't one way of measuring these entities that is more true than another; that which is generally adopted is only more convenient. Our concepts of space and time are also definitions, selected on the basis of their convenience in handling the facts. 35

He has come
Who has come.
That does not attract the attention of anyone.
Who has come
He has come
He has not come.
DT: How about the Mother House?
ON: The which house?
DT: The Mother House, the home for unwed mothers...
ON: Geez I don't know...I can't begin to comment on it...but certainly the orphanage is extremely sensitive...
DT: Do you think it's successful?
ON: No, not at all...it wasn't successful from the day he designed it, during the period of construction...he had befriended the director of the orphanage who was an extremely progressive person...and van Eyck was beset with trying to find space for the individual to almost be an actor or dancer in space, and also for collective undertakings. Besides, I mean, when you go in the orphanage, it simply bowls you over how much this man has thought out the design of space supposedly for the use of people.

But it was no sooner occupied when they began boarding up certain things and changing spaces... the children that you see in the photographs of the orphanage are Aldo's children and their friends, not the orphanage children, and they are using the environment as he directed them to. We're all guilty of such games...

assemble comprehensive principles to accommodate the dynamic necessity of the built environment. Yet all too often the built results of these intentions have left many of the intended users confused, frustrated and disappointed. And we are so ready to use this observation as proof of the empty effete nature of any alternate to our own. And everyone continues talking about the same stuff in their own way with typically dissimilar and still unsatisfactory results.

We are all in fact suffering from self-imposed personal misconceptions.
Relative: not absolute or independent expressed as the ratio of the specific quantity to the total magnitude... or to the mean of all the quantities involved.

The difficulty of discovery (in the close world which the human is because it is ourselves and nothing outside us, like the other) is, that definition is as much a part of the act as is sensation itself, in this sense, that life is preoccupation with itself, that conjecture about it is as much of it as its coming at us, its going on. In other words, we are ourselves both the instrument of discovery and the instrument of definition.

How can we solve problems if we are the problem.

The proposals of Aldo Rossi are a very recent example of this focus on form. For him, architecture is an autonomous discipline, eternal, outside of time, creating form typologies which have an independent existence, like Platonic ideas. The city is a permanent structure, which, through its monuments, "remembers" its past and "realizes itself" as it develops. Architecture is divorced of function; it is collective memory, a pure, sophisticated formal game. Physical structure is abstracted from social structure, and becomes a thing of fascinating, independent possibilities. These attitudes unfold into monstrous, seductive flowers. Yet, far below, they are rooted in the same false idea: that man and his habitat are completely separate entities, linked only, if at all, by some mechanical, one-directional causation.
In nature forms are generated by specific internal forces, in geometrical planning form is imposed from the outside...we must discover things and let them unfold their own form.

Of course, there are numerous examples of built environments that we might together find satisfactory. Many buildings and places of unquestionable merit have been conceived and realized through the minds of great individuals. The ability to achieve this level of synthesis, which we might call the "appropriate form," comes through an adept handling of the available facts. In order to develop an image of what an appropriate form would be, one must understand "the layers of activities, exchanges, and inter-relationships which allow the richness of life." But how can one understand this?
"You must live it, be it, totally."

Needless to say, the standards of appropriateness are set sufficiently high to preclude common occurrence. A building's complexity may in fact be appropriately handled by the single skilled designer, but it is clear that the richness of life in a building is of another order from that of a city. Urban complexity is clearly too much for the individual. At one time it may have been possible for a designer to be sufficiently part of the community to be able to achieve appropriate form. Yet today the complexity is greater and the community is much more fragmented, making this complete understanding impossible.

Thus the thesis has taken on a dual intention for me. First as an arena to extend my doubts to the structures of specificity and to be able to, as a matter of course, elaborate on the truth and fiction of each of these. And secondly to explore an alternative design attitude which could provide a method for alleviating these doubts. To, in fact, develop a framework of thought and an attitude towards design based on inclusion rather than exclusion—a dialectic process which would encourage a synergistic synthesis of multiple inputs. It is my belief that this can only be accomplished in a process which first produces multiple syntheses—a process in which the output can be as extensive as the input, only organized in a way which allows some evaluative comparisons and ultimately a real synthesis. I am using the expression "multiple advocacy design" to describe this process.
The theme throughout this thesis has been an investigation of the dual notions of Continuity and Multiplicity in the city. Both And/Or and the conflict of things being different but the same. I am fascinated by the multiple ways we go about attempting to achieve the same agreed upon ends.

It's not modern architecture, but just deviating. Only architecture of all the arts -- sidestepped the avant-garde -- didn't understand it. From the very beginning, I knew that the architects didn't know what it was really about. Not all, but you can count them on your hand. You've got highly gifted people who made beautiful buildings, but it was their gift, their enormous talent, that helped them to make good buildings... It's not enough, talent... You can't base architecture on talent. You've got to base architecture on talent combined with a way of doing it, a way of behaving in terms of building. Call that a style if you like. The result is a livable object.

I have one more confession to make... that I am fascinated by and committed to the urges of profundity.
“Well,” said the boy, “in my family everyone is born in the air, with his head at exactly the height it’s going to be when he’s an adult, and then we all grow toward the ground. When we’re fully grown up or, as you can see, grown down, our feet finally touch. Of course, there are a few of us whose feet never reach the ground no matter how old we get, but I suppose it’s the same in every family.”

He hopped a few steps in the air, skipped back to where he started, and then began again.

“You certainly must be very old to have reached the ground already.”

“Oh no,” said Milo seriously. “In my family we all start on the ground and grow up, and we never know how far until we actually get there.”

“What a silly system.” The boy laughed. “Then your head keeps changing its height and you always see things in a different way? Why, when you’re fifteen things won’t look at all the way they did when you were ten, and at twenty everything will change again.”

“I suppose so,” replied Milo, for he had never really thought about the matter. 23

“Does everyone here grow the way you do?” puffed Milo when he had caught up.

“Almost everyone,” replied Alec, and then he stopped a moment and thought. “Now and then, though, someone does begin to grow differently. Instead of down, his feet grow up toward the sky. But we do our best to discourage awkward things like that.”

“What happens to them?” insisted Milo.

“Oddly enough, they often grow ten times the size of everyone else,” said Alec thoughtfully, “and I’ve heard that they walk among the stars.” And with that he skipped off once again toward the waiting woods.23

in the end....

The product can never be the solution. It must be in the process.

Enlightenment is not "a"...it just is.

The point is that it ultimately doesn't matter what we do. The answer is no more in new buildings and streets than it is in macramé. To seek for answers is the first problem. For "They" do not exist. It is only in a process and in an attitude that we can build multiplicity.
Yes, and I keep believing very strongly... that the notion of order which is normally accepted by architects is a very simplistic one. It's based on excluding variables; you can have an orderly situation if you cut the variables of the situation based on very few components, and this is what architects do so often. They face a situation which is very intricate and they pick up only a few things. So it's very easy to have order while just playing with two variables.

If you have a string instrument with only one string -- you have a monotonous sound, orderly in a way, because it doesn't have complications. But if you have thousands of strings, what comes out is apparently very disordered. But if you know how to play it, it will become something fantastic.

It will be an apparent disorder, but its truth, its reality, its substance will be a superior level of order. What I'm looking for is for superior levels of order which may be understood as disorder, though they are understood as disorder because people are accustomed to very simple configurations of order, and they are satisfied with configurations of order which are so stupid that they cannot certainly work.  

"The manifold functions of a city must be adequately organized in the light of all aspects of mobility, not for the sake of subduing the chaotic element they incur, for this is happily as impossible as it is undesirable, but in order to avoid their reciprocal elimination (functional paralysis) mechanical stagnation and the human stress implied."

The duality, chaos/order, plays a critical role in the process of design.

"One cannot eliminate chaos through order, because they are not alternatives. Sooner or later it will dawn upon the mind that what it mistook for order is not really order, but the very thing that causes the stagnation, paralysis, and distress falsely attributed to chaos."
Introduction

This thesis is an exploration of a process which can incorporate multiple attitudes toward urban design. It is not concerned so much with the resolution of any one attitude, but rather a complex synthesis of the many. The need for this approach is rooted in the suspicion that the architectural urban design professions have calcified around a mode of operation which encourages us, as designers, to continually narrow our focus to such an extent that in the end we react predictably, with predetermined methods and solutions. Life is not predictable, so why design that way? This thesis is against predictably.

It is a peculiar fact that much of the literature on the theory of city form is outstanding for its stupefying dullness. Moreover, it is elusive in memory: it is difficult to recall the principal line of a theoretical argument. Theory is not written for entertainment, yet when it is a successful and succinct explanation of the inner workings of a formerly confusing phenomenon, it is by its nature absorbing to read—difficult, perhaps, but unforgettable once grasped. Think only of Darwin’s central ideas, or the fundamental laws of mechanics. That urban theory is so boring is more than discouraging. It must be a sign of deeper difficulties.

It is clear that urban theory is still fragmented and far from explaining the complex, shifting nature of our cities. In addition, while most of the theories pretend to be purely analytical and “value-free,” they are in fact honeycombed with values. Each model includes its own criteria, as well as its own view of the world, and these concepts are related to each other. We uncover such values as viability, uniqueness, complexity, balance, stability, the status quo, efficiency, maximum interaction, equity, user control, and continuous struggle, to name a few of the more obvious ones. They make a curious list. One wonders of their adequacy as general rules, and whether they truly embrace the interrelation of human purpose and city form.
When dealing with a complex site, one can employ one of four methods of design:

1) **juxtaposition**
   - or "fit the pieces" one works with all facets of the design until everything fits.

2) **juggling**
   - keep every aspect up in the air until the optimal situation is found. One change can effect every decision.

3) **selection**
   - simply deal with a select number of influences and the others are either subservient to those or not addressed at all.

4) **variable advocacies**
   - work out three or more schemes reinforcing a different aspect each time to ascertain the use and position of each in the final projection.13

The intent of advocacy design is to create the opportunities to extend a formal assumption to some kind of uncompromised conclusion. In essence, it is very much of a "parti" design strategy, in which the initial vision remains pivotal in the final product. The differences are twofold: first the advocacies are as concerned with the process by which the form is generated as much as the resultant form itself; and second, the final vision is a synthesis of multiple design advocacy exercises.

This notion of multiple advocacies as the basis for an alternate urban design strategy can provide the range of input which is necessary for an inclusive understanding—though it is certainly open to debate (in terms of the types of advocacies, how many and how extensively they are developed) as to the minimal criteria of inclusiveness.

Ideally, the urban environment would be built through the advocacies of the people within the community itself—many people working from the inside taking a direct role in the development and synthesis of a more
relevant spatial ordering. The success of this interaction process can be found in many of the villages and towns throughout the world and is still a phenomenon occurring today.

The time has come, I believe, to approach architecture urbanistically and urbanism architecturally.

The present situation is due, among other things, to a wrong conception of the relation part-whole. The result, of course, is weak architecture and atrocious urbanism. Whereas the dilemma of most contemporary building lurks in the half-hearted way the available background is understood and handled, the dilemma of most contemporary urbanism lurks in the intrinsic insufficiency of the available background, quite apart from the half-hearted way it is understood or handled. And this brings me on to the problem of number and multiplicity. We've forgotten most of what there is to know about the aesthetics of the single thing, whilst we know little yet about the aesthetics of multiple things. The capacity to impart order within a single thing—to make it rest within itself is unfortunately no longer ours and that's a terrible thing—for we can't do without classical harmony. The capacity to impart order at the same time to a multiplicity of things is as unfortunately not yet ours, and that's a terrible thing too, for we can't do without what I wish to call harmony in motion. 41

Our target is multiple meaning in equipose.

Can architects meet society's plural demand? Can they possibly substitute the present loss of vernacular and still build a city that really is a city—a liveable place for a large multitude of people. Vernacular was always able to cope with plurality in former days. In what way are people to participate in fashioning their own immediate surroundings within a conceived overall framework? You see, when one says 'city' one implies the 'people' in it, not just 'population'. This is the first problem confronting the architect urbanist today.

If society has no form—how can architects build the counterform?

Architects have always been concerned with single buildings or a complex of single buildings.

I believe there is a paradox involved in his task today. Van Eyck

What you should try to accomplish is built meaning. So, get close to the meaning and build! 41

Nagele Schools. Van Eyck
The process of doing this thesis has made me question the general validity of urban design as we have come to know it. For in choosing any design attitude or resolving any complex formal response, an argument can be made as to its arbitrariness. And thus our cities are filled by arbitrary, single-minded design solutions which tend to be unacceptable to great numbers of the people of the city and disastrous to but a few.

"Form is society. Design is one architect's interpretation of it." L.K.

Yet much more frequently the situation occurs as large-scale planning and development gestures in which the multiplicity of needs are answered by a one-dimensional framework. This "project architecture" is as common a phenomenon today as ever. There is certainly much more of a concern for an optional and associative environment based on the failures of this kind in many of the earlier attempts of the 1950s. Still, it seems inevitable that the design approaches which, in general, are taken can only result in the singular vision of urban organization. This problem of the one-dimensioned city is not only a result of direct architectural projection, but is as often a result of the singular criteria imposed by zoning and building codes as interpreted by the free market economy.

The bottom line is that decisions which are made to give a structure to the form of any environment larger than a single building
must suggest a development which is variable, adaptable and interpretable over time. For we will, in fact, be re-constituting the fundamental understanding of the city in the achievement of this scale of project. And it is absolutely necessary to insure that the city be provided with a range of use and association that is at least as great as what has existed prior.

A city is a multiplicity and must be understood as such. Thus the thesis.
Advocacy design is the uncompromised pursuit of individual design goals from which the problem can be redefined.

The thesis works with a sampling of attitudes towards the city and individually advocates their formal implications on the redesign of the city of Burlington, Vermont. Each individual advocacy represents an interesting and worthwhile approach which could be developed into a dynamic final form, yet would be inadequate as a position in itself from which to interpret and develop the city. Still, each approach remains then a necessary stepping stone to the full understanding of multiplicity and the idea of a synthesis which can, in fact, provide this.

Four design exercises have been developed to form the basis for this process. There are multiple distinctions between them. The process of classifying them within a larger framework, as well as the generalization of differences between each, is not straightforward. Each individual exercise, as an alternative master plan design for Burlington, represents a specific direction taken with an individual design instructor from the Architecture Department at MIT. There were some specific criteria and programs that each project was addressing, yet the interpretation of the city and this criteria was left open. In each exercise, the city was presented and discussed with some new conclusions being drawn. A design approach was developed and employed to generate the new projections of public space, paths, buildings and landscape. The individual projections are intended to satisfy the needs of this city in terms of these building requirements and its overall meaning—thus each is open to criticism on these terms. Yet the clarity of the position taken was not to be compromised and for this reason can be viewed as a caricature or exaggeration of the formal clarity.
Each project is an epitomization, then, of a position towards urban design which has developed through discussion with each instructor acting as consultant. The actual physical form that was developed is largely my own interpretation of this agreed-upon position. Thus it may be difficult to differentiate authorship in each of the exercises, for each is heavily influenced by my own focused set of images and values. There is also a question as to the "real" differences between each exercise, as each of the consultants are closely associated with the Institute's larger agenda. Possibly some valuable differences would have been insured had the source of my advocacy consultants represented a greater range of implicit understanding.

Another direction might have been taken in which some specific attributes of the physical environment or individual user participants would be used as the subject of our advocacy projection. For example, what would the city be like if it were designed for college students, large families, secretaries or policemen.
Yes, we must stop splitting the making of a habitat into two disciplines—architecture and urbanism. Why? That's a long story. As I have already said, a house must be like a small city if it's to be a real house—a city like a large house if it's to be a real city. In fact, what is large without being small has no more real size than what is small without being large. If there's no real size there will be no human size. If a thing is just small or just large we can't cope with it. The same counts for many and few. Urbanism hasn't succeeded in reconciling them yet: large and small, many and few; large and few, small and many—large and many, small and few. Think about that and you'll know why the thought process in planning can't be divided on the basis of part-whole, small-large, few-many, i.e. into architecture and planning.

Otterlo Meeting, Van Eyck

"The city is people, not population." A.V.E.

Town planning and architecture are parts of a continuous process. Planning is the correlating of human activities; architecture is the housing of these activities. Town planning establishes the milieu in which architecture can happen. Both are conditioned by the economic, social, political, technical and physical climate. In a given environment thorough planning will lead to architecture. Planning remains abstract until it generates architecture. Only through its results (buildings, ways, places) can it be. Its function is to establish optimum conditions in which the present becomes future. To do this it must seek out, explore and explain the relationships between human activities. It must then bring these activities together so that the whole of life in the city becomes richer than the sum of its parts.

The important question is not 'how?' but 'why?' or 'what for?'. Town planning, like architecture, has to help society to achieve its ends, to make life in a community as rich as possible, to aspire to a present Utopia.

We have no quarrel with the past except in so far as it is used to compromise the future. The past can guide us but past techniques (composition) are of little avail. Present techniques and present means must be used to open as many doors to the future as possible.


Or what would be the form of the city if it were built for cars or baby carriages. Of if a certain building typology were to structure one's impression of the city. To be an advocate in this study means to be able to understand that aspect of the environment in the role as the primary form generator controlling the influence of other qualities and characteristics.

It is not clear, then, what the necessary positions are in developing a multiple understanding. The feeling is that this exploration represents one such way of going about it and could be better developed in subsequent work. As far as the implications for Burlington are concerned, this thesis represents only an initial discussion and some partially developed advocacy projections, from which tentative conclusions are drawn. The analysis which has been done is minimal and must be supplemented by a fuller understanding of the actual use of the city--thus the work itself suffers from an insufficient grounding in the place. While this study has indeed produced some significant insights, the real value is in the fact that a first step has been taken in a process towards multiplicity.
Of course we do the best we can, and strive to make our highest intentions manifest. And that is enough... to get something done. But in the balance we must also open our eyes to the undone... and wonder.

After a long, futile search to find out where we belong in the total scheme of things, the Entropy Law reveals to us a simple truth: that every single act that occurs in the world has been affected by everything that has come before it, just as it, in turn, will have an effect on everything that comes after. Thus, we are each a continuum, embodying in our presence everything that has preceded us, and representing in our own becoming all of the possibilities for everything that is to follow.

Because every event that ever was or will be is interconnected, we share an ultimate responsibility for the infinite past and future. What we do in this world reverberates into the remotest corner of the universe, affecting everything else that exists. How we choose to live our lives is not only our own individual concern. It is of concern to everything, because our actions touch everything.37

The Entropy Law states that all energy and matter is continuously changing its form in one direction, from useable to unuseable, from ordered to disordered. In addition, whenever a semblance of order is created anywhere on earth or in the universe, it is done at the expense of causing an even greater disorder in its surrounding environment, thus the total amount of available energy is decreased. This implies a danger inherent in any singular energy intensive ordering.
Context

This thesis is subsumed with the exploration of an attitude towards design in general, an investigation of urban form and the City of Burlington, Vermont, in that order. This is not to say that the context and site does not play a directive role in the design process and form projections, for obviously it must. But rather that this thesis as an exercise intends to temporarily redefine this determining relationship in order to develop some more comprehensive process understanding. The city is looked at as a specific condition in which to investigate a process of advocacy design. A context in which different design approaches are given a specific form. The
context, then, is used to selectively generate and reshape the approach. Both the individual design attitude and the context are given generative power, as we might expect, but the ends to which this interaction occurs is to develop a coherent design advocacy and not necessarily an acceptable urban design solution. Thus, the individual approach and the context in which it is presented are being used selectively to illustrate a point, from which we can make conclusion to be digested and ultimately to inform a more inclusive projection.

This process is in contrast to another, which would be to carefully analyze the context in a comprehensive and systematic fashion. To establish then a method to prioritize the observed facts and to organize them into a clear structure which would directly determine the formal responses. While the process is clearly a sane way of approaching any problem, it is nevertheless singular and thus deterministic. Yet a rigorous analysis seems to be fundamental, thus a vision of the two processes would be necessary for either to really count for much.
Burlington is situated on a hillside which gently slopes and steps down to the west, to the shores of the great Lake Champlain. The view then extends out, ten miles across the waters to the high peaks region of the Adirondack Mountains and beyond, providing—especially during sunsets—a spellbinding display of natural beauty.

Currently Burlington is one of the fastest growing cities in New England. The attractions of the natural beauty and a fresh sense of urban spirit in a rural environment have brought to this city a fascinating collection of people and activities. To understand the place, I have broken my description down into three categories: (1) the physical context; (2) historical growth and development; and (3) the current dilemma. These three are dealt with in the form of an outgoing text. In addition, related impressions of the place are presented throughout.
the physical setting

The physical setting is intrinsically linked to the identity of a community. One of the first important distinguishing characteristics of any city is its location relative to the rest of the world which, in Burlington's case, is one of perceived isolation. This is a different condition than many other New England cities, particularly those along the Eastern Seaboard. Burlington is most often a place of destination rather than through transit. It is not a link in a chain of urban entities as along I-95, in which the ease of transit creates an interdependence and diluting exchange of urban understanding. The proximity of these cities results in a
virtual continuum of the urban experience reducing the understanding of any particular place.

Burlington is not a part of any such continuum but rather exists as an island, different and yet a powerful concentration within its larger landscape. In measurable terms, the city is connected by the interstate thruway network to Montreal (1½ hours), Boston (3½ hours) and NYC (6 hours). There is also a modern international airport making direct links to these and other major population centers. Yet I feel the perception of this apartness persists and positively manifests itself in the region's sense of independent identity which has nurtured a real community committed to social participation and interdependence.

This physical isolation is enhanced by the natural geography of the area. The city is situated in a broad rolling valley of fertile farmlands between the Adirondack and the Green Mountains. One is always aware of the presence of these mountains. The hilly terrain onto which the city is built is readily under-
standable as an extension of these mountain silhouettes. We find at this smaller size that the settlement patterns of the city have been directly controlled by the landforms, i.e. combs, hills, plateaus and cliffs. To the north the city is bounded by a steep dropoff to the Winooski River flood plains (the Intervale). To the east the city rises up to a ridge where the university is located. From here there is an unobstructed view in all directions. To the west the city grid is stopped and shifted by another steep dropoff, making a clear boundary between the city and its waterfront area. The only easy extension of the city has been to the south, which has resulted in a strung-out strip development down Route 7.

Circus Morning

Once we were all together
Very early in the morning
Down on lower King Street
By the railroad tracks
Watching the circus unload.

It was a pink morning
And the air was as cool
As a stick of new chalk.

Men in ruffled denims
Led animals out of red box-cars.

With gentleness
They put the smaller ones
Into the carts
Like those pictured on a box
Of animal crackers.

I remember elephants
Walking reassuringly
Up King Street that morning
But mostly I remember
That we were all together.

I think.
Another characteristic of the physical context which requires an understanding is the city street grid. The Central Business District (CBD) is made of squares—a checkerboard—of approximately 360 feet on a side. As it extends out from there, it is much less regular and is deformed by the particular aspects of the landform. This square grid is skewed at $45^\circ$ from the general contours. The superimposition of this creates a difference in level from corner to corner as well as side to side, which provides for a predictable yet changing system of views out and through the block. Thus an explicit and extremely powerful relationship is established between the built form and the larger landscape. Places are created within the grid by the local shifts, dimensional variations, and direction changes of specific streets. The shifts of major streets are typically intensified by the placement of a landmark building at an end, as we find on Church Street, College Street, etc. This condition has set up a noticeable pattern of important streets culminating in a space marked by a large tower.
The lake is the single most inducing feature of the larger landscape in shaping the qualities of this city. Lake Champlain is 120 miles long (north-south) and from fourteen to one-half miles wide. It drains to the north through the Richelieu River to the St. Lawrence and on into the Atlantic Ocean. To the south, a canal has been built, making a direct connection between Burlington and NYC via Lake George and the Hudson River. The lake is strewn with a multitude of islands of many sizes, the largest of which is 14 miles long and several miles across. While the lake clearly has a directional form when viewed on a map, at any point around the lake this quality is not so clear. The islands, bays and peninsulas together create an active land-water exchange, which tends to obscure the lake's overall form. The containments—or harbor forms—within this landscape have generally determined the settlement patterns on the lake. The Burlington Bay in particular provides this strong sense of protection and enclosure as well as a commanding view across the lake.
Burlington as a place is at the mercy of the seasons. Time is clearly marked by the seasonal weather patterns and the citizens adapt their activities accordingly. Summers are hot and short, winters are cold and snowy, fall is brilliant in color and spring comes alive with new growth—all quite straightforward and predictable. Yet clearly the implication is the necessity for a flexibility both on the part of the inhabitants and the built structures. A building or place must be able to function in all the conditions or it is useless.

The winds typically come across the lake from the northwest in winter and the southwest in summer. The summer breezes are quite welcome, though protection from the winter storms is a must. Burlington is at 44° north latitude and therefore the critical sun angles at noon are 73 degrees on June 21 and 26 degrees on December 21.
1880s

Two months later, the Burlington Coasting Club and the Burlington Ice Yacht Club were formed, and the city held its first Carnival of Winter Sports in February.

"It was a gala event," enthused Louise D. Benedict fifty years after the occasion. "Guests came from near and far. The lake was frozen over from shore to shore, and a few people drove across the ice from the New York side. Those were the horse and buggy days. . . . Toboggan chutes were built on the lake inside the breakwater. . . . In the evening, torches were placed at regular intervals nearly the whole length of Main Street, and all traffic was barred."
"A present without a past is unthinkable. If we had not fathomed where we were, we could not reckon where we are. Nor have the least inkling where we are bound."

--Author Unknown
Lake Champlain has historically been an important arena of many of the military struggles which have shaped this nation—first between the White man and the native Iroquois, then between the French and English, culminating in the English capture of Montreal and thus all of Canada in 1760. The American Revolution was hotly contested on the lake and then again in 1812 the British and Americans fought hard, culminating in the American victory at the naval battle of Plattsburgh in 1814 and the subsequent Treaty of Ghent. The military significance of the area and its varied and plentiful natural resources secured the importance and steady growth of this area.
As Burlington's port grew because of the lumber industry, between the 1850's and the 1880's, its waterfront underwent extensive change. By 1865 there were twelve wharves and extensive piles of lumber in the central and northern parts of the harbor. These lumber yards spread to the south as the industry expanded, and ponds and swamps were filled in. By 1869 all available waterfront land was utilized in some manner—usually as piling grounds or planing mills—by either the lumber industry or the railroad. A major lumberyard existed around a basin with canals extending from it in the southern part of the waterfront. The largest lumber piling grounds were at the northern and southern ends of the waterfront, with a more mixed land use in the center. Many of the firms located in this central portion of the harbor area were associated with the lumber industry. For example, factories produced doors, sashes, frames, blinds, packing boxes, and cloth board. It was during this period from the 1850's to 1890 that Burlington's harbor reached its peak in development and exerted its greatest influence on the growth of Burlington (Orr, 1972).19

Burlington was originally sited for its strategic position on the lake and its natural harbor in the Burlington Bay. The harbor was the primary source of the city's commercial growth for most of the 19th century. To the south end of the lake, the Champlain canal was completed in 1823, connecting the lake to the Hudson River and NYC. To the north, the Chambly Canal to Montreal was completed in 1843. These provided a direct water link to these two major trade centers. In 1842, a 900 foot long stone breakwater was completed, providing protection for the blossoming waterfront. In 1849, both the "Vermont Central" and the "Rutland and Burlington" railroads came to Burlington and the Champlain Valley. Though the railroads were a direct competition to the shipping industry's trade monopoly, it did put Burlington in the privileged position of being the only point of railroad and shipping exchange. "By 1873, Burlington was the third leading lumperport in the U.S. behind Chicago and Albany. Over 200 million board feet a year were carried from its busy harbors and over 400 vessels were engaged in lumber transport (alone) on the lake."
FOR the better accommodation of Parties of Pleasure, and others, who may wish to view the remains of those ancient fortresses, Ticonderoga and Crown Point, and other more recently memorable places on the Lake, such as the Castle Ground of Macdonough's Naval Engagement—Plattsburgh, etc.—the Congress will leave Whitehall, a-week, every Thursday morning, at 5 o'clock, and if desired, will stop one hour at Ticonderoga—one hour at Crown Point, and arrive at Vergennes, at 6 P. M.—will leave Vergennes at 7 o'clock the next morning, and stop at Burlington and Plattsburgh, to give passengers an opportunity of seeing those places; and will meet the Phoenix, about half past 3 o'clock, at Cumberland Head, on her way from St. John; so that those who do not wish to visit Canada, may return in the Phoenix, and arrive at Whitehall again, at 6 o'clock next morning—leaving, in two days only, performed this delightful excursion, and viewed the principal interesting scenery of the Lake.

Lake-Champlain, July 24, 1821.

In 1891 Burlington’s lumber industry and port activity began to decline for a number of reasons. The forests of the western United States began to be developed and offer competition. More significantly, however, the flow of lumber from Canada declined after the Dingley Tariff in 1897 imposed a duty tax of two dollars per thousand board feet on all lumber from Canada. Further, planing mills were constructed on the St. Lawrence River, and a direct rail line between the St. Lawrence Valley and Boston opened (Levein, 1965). Also, canal transportation— and water transportation in general—began to decline after the 1890’s as land transportation improved. Burlington’s advantageous location bridging water and land transportation routes began to lose its importance (Amrhein, 1958).

By the time the lumber industry began its decline, Burlington’s economy had become diversified enough for the city to withstand the decline of its major industry. And in the Twentieth Century, Burlington and Chittenden County have continued to grow, although this growth has had no significant relationship with Burlington’s port functions.
Thus, Burlington's growth diminished between 1840 and the 1950s, a trend which has reversed itself in the last few decades, with new and more diverse sources of activity. The city has currently a population of 45,000. There is an additional 75,000 in the immediately surrounding suburbs of Chittenden County. The character of the city has undergone a transformation from its traditional rural-based background to a cosmopolitan center of imported and exciting people and values. It is the center of cultural activity for the state and much of New England and upper New York. There are several small stage theatres, a tentative museum, an improvised music hall, numerous galleries, cinemas, etc. In general, the situation is one of a demand which has outstripped almost all of the currently used facilities.

The area has several colleges and a prominent State University (of Vermont: 7,000 students) which have provided much of the new blood to the city. These institutions are deeply rooted in the activities of the city and the
Slum Landlords

Julian Lindsay taught English literature
At the University of Vermont
And lived on Crescent Road
In the hill section of town.
His wife collected our rent
From North Street.
Once a month
She was chauffeured to our door
In a late model blue Cadillac.
Crippled
She used her cane
To crab-walk up the stairs.
I've always knew her sound.
She arrived one day
Dressed like visiting nobility
We didn't need
And admired our kitchen.
Which we had newly painted,
Then went home and raised the rent
By ten dollars.

overall perception of the place. Currently the Church Street Center—a continuing education school—has been successfully operating in the downtown, providing a vital source of learning for the non-university residents of the city.

Burlington architecture is an eclectic package. One can find numerous examples of most building types and styles within a modest 1-6 floor scale. The recent buildings in the city are much less satisfactory. There is a minimalist, over-scaled, out-of-place quality to them, creating an upsetting juxtaposition to the diverse and rich character of the city.

The economic base of the area has diversified considerably from its earlier days. There is still a fair amount of industrial activity in the city, though it is steadily being relocated from the downtown and waterfront areas or closed down altogether. The neighboring mill town of Winooski, Vermont has all but transformed itself from an industrial stronghold to an office and condominium enclave.

The construction of new office space has been the most prolific and surprising growth in the city. Speculative high-rise (6-10 stories) office buildings have sprung up throughout the
downtown urban renewal area continually since the 1970s. Office complexes have also been built on the city fringes to house the headquarters for such corporate giants as IBM, Digital and the Mitel Corporation.
The CBD is 20 blocks encompassing about 80 acres of land. The primary automobile access to the city from the east (the Interstate and the airport) is down from the ridge on Main Street. College Street is the primary pedestrian access from the University to the downtown. The downtown commercial, activity center is Church Street, which in 1981 was made into a pedestrian mall. Access to the downtown from the southern suburbs has been almost exclusively Route 7, which then branches out as it gets into the city. There are currently plans to build a connector to the Interstate which will bring most of this traffic directly onto Battery Street, 2 blocks south of Main Street. From the northern suburbs, traffic comes in on Lake Street and Park Street. And from Winooski, Burlington’s sister city, access is along Pearl Street.

The city core is generally of a higher
the center of regional services
DOWNTOWN BURLINGTON
density and different building type than that of the surrounding residential neighborhoods. Each of these city neighborhoods have maintained a distinct character through community action and a progressive planning stance. However, the downtown area is much less coherent, with the notable exception of the Church Street spine. Historically we find a city with a multiple of focuses, a varied and prosperous downtown in which particular places throughout developed their own identity and differentiation. The waterfront, Battery Street, Church Street, College Street, Main and Pearl each thrived in its own dynamic character. That condition has now been lost as Church Street has become the only focus of the town. The rest of the city has become a second-rate retail, office and parking location acting in a support, service role to the Church Street life.

Burlington is at a crucial point in its history. As a city, it must immediately make a deliberate decision to develop a program through which to insure the multiplicity inherent in a vital downtown. If a position is not
taken, it is obvious that the current self-motivated forces of development and "progress" will exclude any future options for the multiplicity.
The Fountain In City Hall Park

The son-of-a-bitch who swiped the nymph
Should be shipped back to the cold fish.
One adjusts to having childhood urban renewal,
And churches have been parking lots for somet ime.
But now they're going for the intimate details.

Oh, well, the fish deserted it years ago,
And the town maniacs repainted it.
The town clown lifted the whole center-piece,
At least they left a memory hole.
The stage for this current dilemma was set back in the 1950s. The post-War building boom and suburban fever hit the Burlington area with a vengeance. During this period there was a steady migration of families out of city neighborhoods to those yet-fresh dreams of bona fide middle-class living conditions. The city's upper hillside neighborhoods, which had established themselves historically as the pre-eminent residential location, were able to maintain their privileged cohesion and desirability because of their spectacular views and the indisputable convenience to both the University and downtown. But the downtown neighborhoods, in the north end and along Battery Street in particular, suffered by this exodus. With the loss of the financial interest in these areas and decline of the waterfront as an active commercial center, these neighborhoods and their buildings soon became dilapidated, a classic case of that economically rooted schism we find so undesirable in cities. In short, Burlington developed its own form of the slums. The Modern Movement of architecture, set on the tracks of social reform, brought with it a convincing remedy to this urban plague. Rooted in a rational functionalism and a blind faith in the power of new technologies, buildings systems and materials, the "modern" solution was to replace the crumbling piecemeal fabric with a more efficient image of housing and office building. Thus, between 1964 and 1971 two-thirds of the CBD met the blades of the urban renewal bulldozers.

And of course it was much easier to destroy than to rebuild. A number of city plans were developed for the downtown area providing commercial linkages to the waterfront and incorporating new, much-needed civic buildings. But always the development costs and
political conditions or a justifiably concerned objecting public sidetracked any comprehensive project. Thus, the area has been developed piecemeal since 1969. The new architecture is hopelessly out of place in the city. The scale is enormous and the image is impersonal. The siting of the early projects had attempted to follow a rough idea of a master plan and future growth towards the water, but this was conceived in a wholly single-minded way. The thought was that a new enclosed shopping mall would develop the first step in a pedestrian link to the water from Church Street. The idea was sound, but the way it was carried out served to destroy the integrity of the other existing connections. The Bank Street view and access was totally blocked by the new Chittendon Bank and Radisson Hotel, which were to finger from this new mall spine. And Cherry Street to the north of the mall was made uninhabitable by the imposition of the new service areas and parking facilities along it. Since that time, the rising real estate prices and a vague, less than stringent, zoning policy have encouraged a mish-mash of speculative structures which provide in themselves little oppor-
tunity for the development of any continuity or cohesion in this area.

It will be in the best interest of the city if action is taken to eliminate Center City housing. As this is accomplished, land values will increase and much of the city's substandard housing will vanish.

Center City Study, Burlington, June, 1956

Things have a way of disappearing
In this strange town,
A beautiful grey Victorian house
With all its vasty plumbing
(Built by a doctor for his wife
Who died before she was a bride
And so left empty)
Got doused away for something called
The Federal Building
Which Stephen says
Is only good for mailing letters.

And the lovely Church of the Nazarene
Packed up its bright green lawn,
Tipped its steeple hat to Gulf Oil
And left.

And all those silly cannons
Down in the Battery Park
Got repackaged and sent to war,
I doubt they did much good.
The token one they left behind
Looks like it wished they hadn't.

Perhaps some day they'll tow away
The islands out in Lake Champlain
And build a lovely parking lot.
And now the waterfront has again become a central issue in the question of Burlington's future. It is a mixed bag of railroad tracks and yards, a ferry terminal, warehouse buildings, some remaining industrial and manufacturing activity, a public service electric facility and an impressive collection of oil storage tanks. Public use centers around the small park projecting into the lake at the foot of College Street and the public docks at the foot of King and Maple Streets.

In 1983, a large portion of this waterfront area was opened up for development. It was purchased by the Alden Corporation, which hired Ben Thompson and Associates to head the planning and architectural design of the new development. There exists every intention amongst developer, architect, mayor and townspeople to see that this new waterfront project becomes a seminal force through which the city could catapult itself into its next era of greatness. Public access on the waterfront and some kind of public-oriented facilities are seen as crucial elements to this kind of development and have side-tracked several other proposals which had projected high-rise condominiums and exclusive commercial spaces. The city has called for a "landmark public structure to initiate the city's re-emergence of urban vitality," and the waterfront is seen as the place for it.

While the need for public access to the waterfront is paramount, there is a serious problem with the limited reasoning which has focused all the city's energies on the question of the particular form which this takes on the waterfront. For the problem is not first how to make the waterfront public, but rather how to make the city public. My own conclusions are that the waterfront concerns and projections which have been formulated to date are insufficient to contend with the existing tendency towards the isolation of the waterfront, making it an exclusive phenomena separate from the rest of the city.

The one really unique thing in Burlington is its waterfront. It has not been developed because of lack of interest, ownership, and interest of ownership. It can no longer be left uncommitted. In the next 10 years land will be committed for another 50 years or more. We have to decide now what that commitment will be (Lipke and Anderson, 1973).
The real difficulty is rooted in the city's understanding of the area between its present single focus on Church St. and the new waterfront. This is the area of the urban renewal, three to four blocks of very confused use. It has no character and no meaning for the city. It is unpedestrian. Currently people will drive to the downtown or to the existing waterfront, but rarely move between them as pedestrians. It is an ever-growing hodgepodge of piecemeal speculative building efforts, parking garages and empty lots. One is continually amazed at the new buildings being built there, which seem to stretch zoning requirements to absurdity and our aesthetic tolerances to revulsion. This would be a moot point were it not for that area's incredible significance for making the city once again a continuous experience of symbiotic places. For the city to be whole, it must have the continuity and the diversity of positive space.

The existing condition will unfortunately not take care of itself. We cannot build the waterfront and cross our fingers hoping that something good will happen there, especially given the city's current plans to build convenient parking garages at the foot of College and Cherry Streets.

Positive action must be taken to re-establish some meaning for this downtown area and to develop actual guidelines, if not formal projections, of specifically how this continuity and identity would be built. Fortunately, the opportunity still exists to actualize some coherent master plan for this area. Yet time is running out, as each year more of the available space in between the "modern" dinosaurs is developed in a singly narrow-minded fashion and the greater community vision is dealt another blow.
Billy Greene thinks bumper cars and trolleys would be ideal for getting around, with a merry-go-round on the hill.

The Burlington area needs a civic center to "encourage the advancement of cultural activities for the people of the community and surrounding area."

Gordon Paquette, Mayor

"There is potential here... It's unreal... Burlington can be a different city... Burlington could be as important to Vermont as skiing is."

Ken Mitchell, Burlington Place, The Mini-Mall

If there is one theme that recurs constantly throughout Burlington's history, it is one of inherent renewal.

No one can predict the reality of the future. Some have real plans for it. Others have real fantasies. All have real hope.

"One city for the county, with a strong sense of stewardship for public property, equal access to cultural riches, incentive from the joy of work, health-giving, and food, clothing, and shelter for all."

Tom Bassett, curator of Vermontiana and archivist at the University

"Involve people in their surroundings. Urban decay occurs when commercial spaces are used during the day and then vacated at night. The existing inner-city spaces should be preserved and utilized whenever possible so the flavor of Burlington can be maintained."

Henry Huston, industrial designer

"Scattered parks, throughout the city, a large park extending from City Hall Park down to the lake, and extending into the lake."

Vince Furno, of the City Planning Office

"I want progress that will mean something."

Rose Bennett, longtime resident, would re-open the old lumber canals and beautify them with willows and native plants to instill a respect for nature in young people.
Planning on whatever scale level should provide a framework—to set the stage as it were—for the twinphenomenon of the individual and the collective without resorting to arbitrary accentuation of either one at the expense of the other, i.e. without warping the meaning of either, since no basic twinphenomenon can be split into incompatible polarities without the halves forfeiting whatever they stand for.

This points towards the necessity of reconciling the idea unity with the idea diversity in architectural terms or, more precisely, to achieve the one by means of the other. It's an old forgotten truth that diversity is only attainable through unity, unity only attainable through diversity. There are of course many ways of approaching this objective.

The architectural reciprocity, unity-diversity and part-whole (closely linked twinphenomenon) must cover the human reciprocity individual-collective. Still there are two more twinphenomena likewise closely linked to those just mentioned, which still elude adequate translation into planning—a twin set: large-small and many-few. The irreconcilable polarities—false alternatives—into which they are split cut no less brutally across the gaunt panorama of urbanism today. Failure to govern multiplicity creatively, to humanize number by means of articulation and configuration (the verb to multiply should coincide with the verb to configurate) has led to the curse of most new towns. The mere fact that habitat planning is arbitrarily split into two disciplines—architecture and urbanism—demonstrates that the principle of reciprocity has not yet opened the determinist mind to the necessity of transforming the mechanism of the design process. As it is, architecture and urbanism have failed to come to terms with the essence of contemporary thinking. Inseparably linked as all basic twinphenomena are, a few were extracted from the rest mal-digested (those already mentioned) part-whole, unity-diversity, large-small, many-few, as well as others equally significant—inside-outside, open-closed, mass-space, change-constancy, motion-rest, individual-collective, etc. etc. 41
Each of the advocacy exercises was developed in response to a similar set of criteria which was set by (1) design goals, (2) context, (3) program and (4) site. In the individual exercises this information was interpreted and prioritized to establish the primary working assumptions for the advocacy position. Thus each project may be distinguished by its emphasis of some criteria aspect. These are: A. the extension and transformation of existing place image; B. a hierarchical differentiation of path and place; C. the megaform as a support for the "flat floor" pedestrian access; and D. the development of the landscape to inform building and access.
The thesis is concerned with the city and its potential... the city and its structure, its meaning, 

What will someone be doing at the corner of Cherry Street and Pine Street on October 21 at 2:00 in the afternoon?

In all cases the intention has been to make links. Not just the physical links from one place through, to another place, but the mental and spiritual links from the physical world through, to the cosmos.

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The design goals incorporate both the specific criteria to be satisfied, as set by the context analysis, and some of the implicit assumptions of my own value-based agenda. Each exercise has had to accommodate or provide for this range of goals. That each exercise is not independent of these criteria is an essential quality for meaningful comparison, though conversely this requirement will add certain characteristics in each proposal which are not a direct result of the advocacy taken as well as missing opportunities from having to conform to these particular requirements. This provides an interesting twist and added richness
to each of the projects while not obscuring nor invalidating their position. Thus each project should be evaluated by these (and other . . .) design goals:

1. To make a clear pedestrian connection to the waterfront from Church Street.
2. To develop a larger network of linkage throughout the city.
3. To extend the range of public use within the blocks throughout the CBD.
4. To emphasize the pedestrian experience as the primary source of life in the city.
5. To establish a clear relationship of the city to the larger landscape form, especially the contour.
6. To develop a clear order for the new growth of the city.
7. To insure optimal association with the built environment.
8. To develop a range of building forms and typologies specific to that advocacy position.
9. To establish a positive relationship between the new growth and the existing tissue.
10. To provide positive use of all the site.

Goal: a desired result or purpose/objective

As long as cities exclude particular kinds of motion that belong inseparably to urban life, their human validity—they have no other—will remain partial.

The time has come to orchestrate all the motions that make a city a city. It is somehow in the nature of cities in general and of traffic in particular to suppress certain kinds of motion which, if less insistent, are certainly no less fundamental to the idea city.

Cities today demonstrate an appallingly limited range of movement. Their rhythm is as vehement as it is monotonous.

A city, if it is really a city, has a very compound rhythm based on many kinds of movement, human, mechanical and natural. The first is paradoxically suppressed, the second tyrannically emphasized, the third inadequately expressed.

Wheels or no wheels man is essentially a pedestrian. Whether he really wants to be, will again become, or no longer wants to be is quite arbitrary. He is! 'Side' walk indeed means just what it is! To cater for the pedestrian means to cater for the child. A city which overlooks the child's presence is a poor place. Its movement will be incomplete and oppressive. The child cannot rediscover the city unless the city rediscovers the child.

Van Eyck

A similar model of vehicle parking is assumed in each of the projects in which the centers of most blocks are terraced providing 1-2 levels of local parking. The civic areas would be provided with larger facilities within/under the public buildings.
Although we imagine that medieval towns were irregular, picturesque, and "organic," the kings and burghers built quite regular, practical settlements when they had the opportunity.

This medieval experience led to the proclamation of the Laws of the Indies of 1573, wherein the Spanish emperor gave directions by which the new cities of America were to be built. These prescriptions governed the founding of hundreds of towns over a period of 250 years. The laws gave rules for site selection, the layout of an orderly square grid of streets and blocks, their orientation, the form of the central plaza (which was to be surrounded by public buildings and the houses of the wealthy), the segregation of noxious activities, the form of the wall, the disposition of common lands, the distribution of city lots and farms, and even the uniform style of the buildings. It was not a piece of magic, but a practical handbook. Each provision had a reason, and the model could be executed rapidly.

The grid towns of the United States, motivated by land speculation and land allocation, are only too familiar to us as examples of the same genre. The report of the commissioners who in 1811 laid out New York City above Washington Square is a lucid statement of the motives of that design. Compare just one of their statements with the cosmic doctrine: "[W]e could not but bear in mind that a city is to be composed principally of the habitations of men, and that strait-sided and right-angled houses are the most cheap to build, and the most convenient to live in. The effect of these plain and simple reflections was decisive."
You all know what happens after a heavy snowstorm? The Child takes over—he is temporarily Lord of the City. You see him darting in every direction collecting snow off frozen automobiles. A great trick of the skies, this, a temporary correction for the benefit of the neglected child. It is up to you now to conceive of something for the child more permanent than snow—if less abundant, something quite unlike snow in that it provokes child movement without impeding other essential kinds of urban movement.

It must be conceived furthermore not as an isolated thing or isolated set of things, but as something which can be repeated on suitable places in the city. The city must be able to absorb it both aesthetically and physically; it must become part of the city's everyday fabric.

It must be elementary in that it must respond to the child's elementary inclinations and movements (the latter does not completely cover the former) and activate his imagination. It must be able to survive the impact of city life: faulty construction, choice of materials or design inevitably go hand in hand with unnecessary danger. What you make should in the first place be attractive to children of four to eight years old. You are free as to your choice of materials. You are not bound to a particular site.

12-day student project—Washington University, St Louis, 1961. Van Eyck
scenario for intervention

"A scenario for intervention" is also imposed on each of the projects in order to insure the final comparability. This is, as well, to provide a reason to develop each of the projects to such a large extent of magnitude. It is assumed that a single developer has attained control over the urban renewal land and, working in concert with the city officials, has developed a master plan for the city which will accommodate the previously mentioned design goals and provide the opportunity for a large-scale mixed-use development. The city has required that certain civic buildings be incorporated into this new development, which will ensure that this area of the city maintains a public character. In addition, each of the advocacy positions assumes a specific attitude towards the waterfront development, which may or may not accommodate the Ben Thompson waterfront proposal.
We have to try to re-identify man with his environment—to arrive at an idea of city in which every building, every lamppost and street sign will seem part of a predestined harmony of which man is part. All else is futile. 42

The criteria for the general conditions are imposed by both a fabricated program and certain fixed design goals, as set by earlier analysis.

**site/program**

1. The site for each of the design exercises is limited (in general) to the C.B.D. and the waterfront. As the focus is mostly on the C.B.D., assumptions as to the form of the waterfront have been made.

2. The program assumes that a substantial amount of new building and space will be developed in the downtown to insure mixed-use and to extend the range of public territory.
   a. new housing: apartment buildings, 7 flr. max./cluster housing
   b. mixed-use commercial: shops at access level with office, studio or apartments above. 4-5 story max.
   c. new large-scale shopping places: department stores
   d. new civic functions: auditorium (800-1200 seats), civic center, museum/school, outdoor collective space.
   e. parking: sufficient for all downtown requirements.
Architecture—planning in general—breathes with great difficulty today. The breathing image epitomizes my conception of twinphenomena—we cannot breathe one way—either in or out. I am concerned with twinphenomena, with unity and diversity, part and whole, small and large, many and few, simplicity and complexity, change and constancy, order and chaos, individual and collective; with why they too are ignobly halved and the halves hollowed out; why they are withheld from opening the windows of the mind! As soon as they materialize into house or city their emptiness materializes into cruelty, for in such places everything is always too large and too small, too few and too many, too far and too near, too much and too little the same, too much and too little different. There is no question of right-size (by right-size I mean the right effect of size) and hence no question of human scale.

What has right-size is at the same time both large and small, few and many, near and far, simple and complex, open and closed; will furthermore always be both part and whole and embrace both unity and diversity. No, as conflicting polarities or false alternatives these abstract antonyms all carry the same evil: loss of identity and its attribute, monotony.

Right-size will flower as soon as the mild gears of reciprocity start working—in the climate of relativity; in the landscape of all twinphenomena.

Van Eyck, 1962
TWO STRUCTURES
by
Frances Starr

THE STRUCTURE OF BELIEF
Convert all churches into low and middle income housing

Unit rentals computed by dividing costs plus maintenance by floor space

Tenants do renovating

Costs plus labor credited toward their rent

End of religious subsidy increases real estate tax revenue making possible a decrease in income tax

The program is voluntary

Each congregation votes as to whether it will participate

THE STRUCTURE OF DISBELIEF

An eternal frame around the grave of Lee Harvey Oswald

A five foot wide corridor of darkness surrounds the grave

Benches in the frame of darkness where visitors contemplate personal & public injustice & guilt & their inter-relationship

THE STRUCTURE OF BELIEF

The anti-gravitational space-capsules are suspended from scaffolding has to be erected beyond present-day cities, the latter are unhealthy and unhygienic, they must be abandoned. They can be left to serve as offices and factories.

Avant-garde man, however, must himself change the tectonics of 45 yards for 500 cans and spraying foam rubber by blowing up new materials. Everyone carries his home around in a can a supplementary serum dissolves the construction within seconds which will make the traditional massive city superfluous.

Computers sanitary facilities medicine and food are built into clothing and can be thrown away after use.

MANIFESTO FOR A POLY MULTI MIXED MEDIA UNIVERSALITY

I. ULTIMATE GOALS

A SIMULTANEOUS COMMUNICATION EVERY SINGLE SECOND WITH ALL THE THOUGHTS AND ACTIONS IN THE WORLD

B A RECEIVER AND A TRANSMITTER ARE ATTACHED TO THE HUMAN BRAIN TO RECEIVE AND BROADCAST THOUGHTS TO AND FROM ALL THE PEOPLE IN THE WORLD OR WITH ANY ONE PERSON IN ANY ONE PLACE

C RADIO AND TELEVISION SETS WILL BE UNNECESSARY VIA THE BRAIN EVERY HUMAN BEING ANYWHERE CAN BE REACHED AND SIMULTANEOUSLY INFORMED OF ACTION BECAUSE HE IS PRESENT ALTHOUGH GEOGRAPHICALLY REMOVED

D EVERYWHERE IN THE WORLD THERE ARE TUBES OR SPRAYING CANS EVERY 500 YARDS FOR PRODUCING AN IGLOO-LIKE CONSTRUCTION AT ANY TIME AND WITHIN SECONDS WITH EXPANDING FOAM RUBBER OR BY BLOWING UP NEW MATERIALS EVERYONE CARRIES HIS HOME AROUND IN A CAN A SUPPLEMENTARY SERUM DISSOLVES THE CONSTRUCTION WITHIN SECONDS WHICH WILL MAKE THE TRADITIONAL MASSIVE CITY SUPERFLUOUS

E COMPUTERS SANITARY FACILITIES MEDICINE AND FOOD ARE BUILT INTO CLOTHING AND CAN BE THROWN AWAY AFTER USE

Ultimately man has accomplished nothing but the satisfaction of his most primitive needs.

Self-protection against bad weather is a necessity.

Man has created various ways of building himself a shelter. Nowadays he creeps into so-called urban cells. What does he do inside them? He stands, he walks, he sits, and he lies down to rest.

Man has never succeeded in building a chair in which he can sit without his legs falling asleep.

Man has never succeeded in building a bed in which he can sleep other than like a tamed animal.

All of man's conveniences are merely the result of his laziness; he can't invent anything, because he doesn't want to be anything but practical. All devices for relaxation are nothing but instruments of torture.

Man in the astronomical era can no longer live in a concrete behive. Give him a non-gravitational place to live in, where he can move at will, walk, lie down unhampered, with no supports and no springs. Farewell, chair, farewell, bed. No need for you anymore. And of course no more kitchens. Away with those American-style kitchens, plastic tiles, pictures on the walls -- NO, away with them! And away with overeating! A good cuisine and a good collar.

Very little food, to stay slender.

NO! Very little food, to stay slender and agile. Getting fat is punishable by law.

Hovering in an anti-gravitational capsule, and with no modern conveniences, for these are the mental laziness of idiots. The anti-gravitational space-capsules are suspended from scaffolds, climbing up and down these scaffolds is a necessary exercise for the circulation.

The collection of individual free-floating capsules with their scaffolding to be erected beyond present-day cities, the latter are unhealthy and unhygienic, they must be abandoned. They can be left to serve as offices and factories.

Avant-garde man, however, must himself change the tectonics of the earth.
The Nerve Ends Room

The Nerve Ends Room is evolved as a free-flowing, self-perpetuating, self-destroying energy environment using active elements of:

- FASCICULAR STREAMING
- ORGANIC GARDENING
- ELECOTRYCULTURE
- BIRDS
- ACID
- TECHNOLOGY
- EXTRASENSORY PERCEPTION
- WILD-LIFE PRESERVATION
- BLACK POWER
- BACH
- BEATLES
- BEAST
- SONG
- SYNESTHESIA
- EJESTHESIA
- Ecstatic physical interchange. Participants will freely choose music, noises, lights, seasons, stars, galaxies, winds, colors, photoreceptor activations, circuits cut-offs, slides, film, laser beams, traffic signals, dirt, sand, mud, grease, powder, friendly animals, fabrics, SCRs, water, fires, ropes, swings, ladders, screens, wood, nails, hammers, saws, chisels, trees, shrubs, flowers, costumes... and agree only that their choices may exist simultaneously in juxtaposition with the choices of others in the same time-space continuum.

The participants will be able to select their materials in advance; they may also build or activate parts of the environment with found materials or by using preset electronic circuits — sensory components determined by computer programs. The found materials can be used in any imaginable way, alone or in cooperation with other people. Maximum sensory information and strange immediate physical circumstances will provoke actions / reactions in developing involvement. People will be bombarded, "charged", as they shape and reshape the environment. Earplugs, eye masks, perfume, tiny lights and hunks of foam rubber to build chambers will be available to disperse environmental conflagrations — to provide utter quiet for private turnings-in / turnings-on. Licit, illicit, pot, alcoholic drinks, mushrooms, vitamins, strange and common foods will be available. The Nerve Ends Room will be situated in a transparent bubble in a woods to facilitate exchange of inside and outside, actual landscape and fantastic landscape.

Finally, a memory bank will be available to everyone by which they can open travel into their experiences to anyone desiring to go where they have been. (My memory-bank idea is fully described in the English magazine Lucet.)

Along these cleaned fishbones we have to dig trenches. Not just simple trenches, however, but trenches a hundred or two hundred miles deep and, naturally, of median length.

This is also the solution to the social problem, for fifty year it will keep all humanity busy, otherwise men would have nothing to do but wage war.

To sum up: we have to clear away the high mountains, dig trenches along them, and then, when everything is completed: take the 12,000 atomic bombs in America and the U.S.S.R. and detonate this inconceivable power in the mines we have created.

Just wait and see!
The earth will turn a somersault, it won't matter, the earth will go wherever we want it to go.

And thus we'll be able to visit the brother stars in our universe without fail!

Inhabitants of the earth! Carry out this project. There is no other solution! 45
The dilemma of the architect planner is that, if he endeavours by sketch forms to give an understandable indication of the environmental potential of the structure, these are immediately given the dignity of a well-studied building project, and subjected to a detailed criticism on this basis, whilst if he abstains he communicates no vision to those for whom, quite rightly, the vision is of great import. Is it possible that new communication techniques such as film could present change as the most permanent factor in city building?

Stockholm, 1967, Erskine
**design exercise A** Continuity through extension and transformation of an existing image.

The idea of this advocacy is that the image of any new urban growth must evolve from a process of analysis, understanding, and transformation of the "essential" attributes of the existing urban structure. This identification comes through observation of the people and their use of the city. It would include the character of existing climatic/seasonal conditions, wind-sun-shadow patterns, building typologies and dimensional relationships...etc. It is necessary to understand first those qualities of the environment which are primary in the image of that place and then to reinforce these qualities through the extension of their physical attributes. With the development of a new program and general set of demands brought on through the evolution of the culture, the new growth of the city must become a transformation, rather than just an extension of that which is existing. It must have a life of its own, yet remain securely rooted in the existing image. As a result of this process of extension and transformation, a new kind of space is made between the old and new. At
this moment of dialectic interchange, the conditions of the public space are made.

In the proposal, several raw assumptions about the existing image have predicated the work. First, that there already exists a difference between the direction of the street grid--that the N-S streets are much more of a place to be in than the E-W streets, which serve to provide access. Church St. becomes, then, the actual city plaza, the real commercial place of the city. And the perpendicular streets are the connection to the larger landscape via access and view. This image is reinforced by first extending Church St. into a zone of parallel access places, each with its own strong commercial continuity and arcade system. College St., on the other hand, is developed as a continuity of landscape places with a much more broken building edge.

Another general set of images which are developed is the quality of the space inside of the block and the condition of the contour of the land. Multiple access points are set up into the block where a new public space is made. Through the use of terracing, parking

It is the time of the ecology of the landscape.
and residential buildings are provided, which themselves would reinforce the new form of the amphitheatre space and access along the contour, which focuses out of the block to the view beyond.

These two images are brought together and reinterpreted in the new super block of the city where the civic buildings and open space are formed. At this point, a direction change occurs which allows for the extension of the system out to the waterfront. In general, all new structure is developed from the dual notion of the advocacy which is based in a respect for the existing structure of streets and buildings and that the city is made additively by details, not by generalizations.
design exercise B The continuity of discrete parts: a hierarchy of path and place.

This project is an advocate of order through the establishment of hierarchic differences in the places and paths of the city. The clarity of the ordering of such key parts of the environment would then serve as a framework into which local variation could occur. Thus a distinction must be made between both the parts themselves and the parts from the rest of the structure of the city. The method employed in making this first distinction would be to assign certain physical characteristics to each of a finite gradation of paths and places so as to clearly develop an understanding of primary, secondary, tertiary, etc. distinction. The operational characteristics could be dimension, building type, landscape, lighting, etc. and would employ differing degrees of continuity as behavioral markings. The degree of definition could be limited to certain highly visible elements so as to maximize the capability of local variation.
The starting point in utilizing this process in a project for Burlington was to give the perceived dual directionality of the grid some new meaning and direction by placing it in relationship to another system of access and place. The new access form as a diagonal through the block would serve to connect the streets of the city as well as the two existing public parks, and to establish a new system of public civic places within the block's existing interior open space. The hierarchic culmination of this would be the new public room/plaza at the intersection of the major connecting pedestrian paths. Here would be located the entrances to the new civic buildings as well as other appropriate mixed uses.

A distinction between the N-S and E-W streets would be made to clearly establish the E-W direction as the dominant access path, leading to the entrance points of the diagonal pedestrian ways and a continuously-built connection to the waterfront.

The point is not to connect the parks but to provide a reference for a network of other paths/places.

Gradation of paths and places would be characterized as such:

**PATHS**
A. Diagonal access to new public room
B. East-West street access to waterfront
C. North-South street access
D. E-W internal block connections to places along diagonal
E. E-W internal block connections to other orthogonal conditions
F. Dead-end internal block connections

**PLACES**
A. New public room as well as existing parks and university
B. Internal intersections of public A paths
C. Intersection of grid access B and diagonal A
D. Intersection of grid access C and diagonal
E. Intersection of access D and diagonal
F. Non-intersection places along access

Each classification of path and place type would have distinct physical attributes to insure an associative continuity of discrete differences throughout the city.
Places, corridors and points

The total public environment is made up of a network of lines, significant and accessible open spaces and intersections called corridors, places and points. Corridors are the means of movement through the environment, of communicating its form, content and meaning as a whole and of experiencing it as a sequential event. Places provide the opportunity for experience, involvement and leisure activity of all kinds. They contain, display or make available to the public the complete range of city resources. Points are the high intensity intersections of movement, communications and services. They are primary points of transition, entrance, change of direction or mode and orientation and congregation.

The city as a living room

The core of a city can be considered as the city's public living room. It has a relatively similar function and degree of privacy as that of the living room of a house. The city living room consists of a system of public open spaces and places. They are the meeting places for all people and they are accessible to everyone in the city. They reflect and express a public way of life. They allow individuals or groups to have the freedom to perform duties and to express themselves within the norms of society. The living room as a system should allow for a variety of activities to suit the different desires and needs of the society.
One of the largest and most complex frameworks is that constituted by the streets and open spaces of a city, where infill or participants are the variety of private functions and activities. Savannah, Georgia provides an example of a highly articulated and successful physical framework at a city scale. The framework was created by repeating a series of twelve block modules, each containing a central open space or park to define a series of separate neighborhoods or areas within the city. Once the overall framework was established, a great range of variety could occur within each module and from one to another. The framework was not restrictive but provided a sense of relation that encouraged diversity and individuality of each of the parts. Each has a separate identity derived from its specific function, appearance and the architectural detail of its infill.
Continuity as the larger dimension: the megaform.

This proposal has developed from an interest in the ideas of the megastructure and the potential inherent in being able to integrate a new larger physical definition into the fabric of an existing community. The distinguishing characteristics of the megaform (as opposed to the broader notion of frameworks) is that some large scale dimension be actually built.

The idea of the megastructure requires a minimum of two components, the first being a large physical frame and the second, a discrete system of smaller dimensioned infill that can be fit into the primary structure and more easily changed. The suggestion here, of course, is one of a rigid hierarchy in which all other definitions are secondary to a typically geometry-controlled "superstructure." Thus the simple development of this concept leads typically to monstrous results.

Yet the idea can be used in a broader sense, whereby multiple independent systems of both frames and infills—each capable of
its own growth and definition--can be brought together to make up the actual megaform.

"Each system which makes up (a part of) the whole, maintains its identity and longevity without being affected by the other, while at the same time engaged in dynamic contact with the others." F.M.

The distinction between this system of form and Maki's "aggregate form" is one of minimal dimension. For here, though the systems are no longer completely interdependent but rather self-generative, the size element is such as to require a totally new kind of behavior from the existing "aggregate" form of the city. In Burlington there exists several precedents of the necessary frame size component of the megaform, i.e. the underground shopping mall, parking garages and the other large urban renewal structures. The problem is that while the dimensions suggest the megaform, the behavior does not. They try instead to be small buildings at a large scale and are devoid of the other minimal criteria of the megaform (the human-scaled infill). Thus, the context is ripe for the sympathetic engagement of the megaform principles.

Fig. 5. Two types of megaform. At left, hierarchical structure. At right, open-ended structure.

Other characteristics of the megaform proposal:
- that it build a connection to the waterfront in a continuous way which would be easier than the existing streets for the pedestrian (because of flat floors and lifts).
- the new structure would move through the interior of the blocks with minimal disruption of the grid.
- to provide a zone between existing structures and new buildings that would allow optional overlap.
- to provide a vehicle of form for the introduction of the new superblock civic functions and potentially to use the idea in an alternate form for other use types.
The most useful attribute of introducing a new notion of the megaform into the Burlington context is the potential of extending the relationship of people to their physical place within the experience of the pedestrian access to the waterfront. This is done through the extension of continuous "flat floors" from a certain point of grade level access out to a destination point that extends both up—in the tower—and down back to grade. Here the primary frame is the tower and its flat floor together. The floor is seen as a propped-up system of terracing which would then serve as parking, access and potential building site.
Continuity of the landscape

The condition of this advocacy is the idea that the landscape as a physical form cannot be adequately expressed within the structure and dimension imposed by the grid, but rather that there must always exist a larger form and direction of the landscape which must develop/inform a sympathetic form of building and access. In general, the reference here is to towns and cities in which their physical form has evolved as a direct response to the larger physical conditions of the landscape and character of the actual place.

In Burlington, the grid provides little help in understanding any relationship between the pedestrian and the larger landscape, nor clues as to the larger form. The grid, as it is, is sufficiently skewed (on the diagonal) from the contour and generally extends both towards the water and along it in a similar relentlessly non-associative fashion. The grid, after all, is a construct imposed on the landscape. It is an unnatural act.

This proposal attempts to look at the form the built environment might take on if informed by the larger landscape rather than the grid. There are several important characteristics taken in this project:

- that the contour in its natural state be used directly as a line/level to move along, to positions of easy access up or down;
- the contour must also establish a reciprocal form (not straight terracing) in the forms of promontories and combs to provide natural places in the environment for gathering;
- that a larger dimension and stronger continuity of building be achieved reinforcing the size and direction of the landscape;
- that the form of the unbuilt space itself (the landscape) be reciprocal with the buildings and develop directional Y-junctions rather than the non-directional X-junctions; and
- that, in general, the building and access form be organized as a field
The affection for nature and the desire to be close to natural, living things are sentiments very widely held throughout the urbanized world. Settlements built according to the organic rule are attractive to us chiefly because they allow for this close contact. It is less tenable, however, that nature is what is nonhuman, and that the farther one gets from people and civilization, the more natural one becomes. By that rule, wilderness is more natural than hunting camp, hunting camp than farm, and farm than city. But people and their cities are as much natural phenomena as trees, streams, nests, and deer paths. It is crucial that we come to see ourselves as an integral part of the total living community.

Above all, perhaps, it is this holistic view which is the most important contribution of organic theory: the habit of looking at a settlement as a whole of many functions, whose diverse elements (even if not strictly separable) are in constant and supportive interchange, and where process and form are indivisible. This idea and the accompanying emotions of wonder and delight in diversity and subtle linkage are an enormous advance over the models of eternal crystal or simple machine. The model might be even more apt if it could divest itself of its preoccupation with simple plant and animal associations, with limits, stabilities, boundaries, hierarchies, autarchies, and inevitable biological responses. Incorporating purpose and culture, and especially the ability to learn and change, might provide us with a far more coherent and defensible model of a city.

The space is in control of the building and the access.

in which the space (landscape) is in control.

Also of importance is the transformation between the existing grid and the new landscape in which certain substitutional exchanges occur, i.e. street access becoming landscape space. The purpose here is to overlap much of the meaning of the new associative landscape with the existing spatial structure. As a result, a directional understanding of the existing blocks and a self-stable form of all space and building is achieved.

The space is in control of the building and the access.
A water/land figure/ground relationship is built, letting the water make a continuity from Church Street to the waterfront, and throughout the city.
Man Belongs to Nature

The symbiotic approach to the problem of the city has an extremely simple and familiar premise. It is that man, in addition to his spiritual identity, is part of nature. He is a biological organism, subject like all other creatures to the laws of nature. This implies that he is constantly affected by his physical environment. Each of us is dependent on it, not only for the material necessities of life (though that is the one relationship most of us recognize) but for health and for the balanced functioning of our senses, and ultimately for emotional well-being. The subjective relationship to the environment—how it affects our senses—is the one we know the least about; but we are beginning to study it and recognize its importance. We know that sounds and lights and forms and colors and movements and the other living organisms in our environment influence, for better or worse, our psychological and physical condition; this is merely another aspect of our participation in nature.

There should be no misunderstanding at this juncture of the importance of the city. No one is suggesting that a man-made environment is inherently unnatural; no one is advising a return to more primitive ways of living. On the contrary, the city is (or should be) an environment where certain natural influences operate unimpeded by others. If it is not "unnatural" when creatures dig or build themselves shelters to provide the kind of small-scale environment they need, then it is not "unnatural" for us to build cities for the same purpose. There is merely one condition attached, a perfectly sensible one: that the man-made environment satisfy our native physical and psychological requirements. So the job of the urbanist and architect is essentially to design a man-made environment which is as natural as possible.
Design Exercise "A" and BTA Waterfront Proposal
Design Exercise "C" and BTA Waterfront Proposal
Design Exercise "D" and BTA Waterfront Proposal
Evaluation

Sooner or later, you'll have to risk it. That's the moment of realization—the jump, the risky jump. It's really tragic when you think of it, I mean the way architects and urbanists still fail to creep out of their determinist strait-jackets, still fail to really participate in the contemporary world of art; still cling to mother nature as if unable to walk without her. Now in order to be natural in architecture we must depart from nature. It is in the nature of art that it should be different from nature. Of this I am sure. We're not concerned with the way nature does the trick. Art has its own kind of logic. It looks illogical beside nature's logic, but so does nature's logic look illogical beside that of art—beside that of man. Hence the conflict and the fear to risk the jump.

You cannot reach the other side without jumping—no arbitrary stop gap whim—team work or anti-prima donna nonsense—is going to bridge the gap. The art is in the jumping, how you take off, when and where. Without the jump there'll be no architecture —good or less good; just buildings and cities—bad or worse.

van Eyck

As long as we keep balancing fearfully between false alternatives, like a tightrope dancer shifting sideways along a taut thin wire in a void, we shall continue to miss the mark. But I think the doorstep symbol is rich enough to sustain a kind of architecture—planning in general—which is certainly more valid than the kind we have got used to during the last thirty years.

The doorstep idea, of course, does not cover the idea of the inbetween realm. The latter has further connotations.

Awareness of this inbetween (inbetween awareness) is essential. The ability to detect associative meanings simultaneously does not yet belong to our mental equipment. Since, however, the meaning of every real articulated inbetween place is essentially a multiple one, we shall have to see to it that it does.

Our target is multiple meaning in equipoise.

Considering the aspect of ascending dimension in the light of a concept of size and quantity nurtured by reciprocally, the articulated inbetween realm may also coincide with inbetween dimension. Things of a very different nature must be familiarized by some device. The same goes for things of different size. (This by no means impinges on the positive effect of contrast, but then contrast means so many things—bad and sometimes good.)

Awareness of the inbetween creeps into the technology of construction. It will transform not only our idea as to what we should make, but also as to how we shall make it—including our technological approach. It will be there in the body, the members and the joints of whatever we make.

van Eyck

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"order is only necessary to make chaos work"

But it is difficult to maintain hierarchy in very complex organizations such as cities. It is harmful to the easy flow of human interactions, wherever it is forcibly imposed. There are no "higher" and "lower" functions in cities, or at least there should not be. Elements and subelements do not rest within each other. Reaching someone or some service by passing up and down the branching lines of a hierarchy is laborious, unless all relations are extremely centralized and standardized. Hierarchy is primarily useful for indexing and cataloging. It is painfully maintained in certain formal authoritarian organizations, where the major branch points in this formal communications net are master keys of control. At the city scale, hierarchy keeps relapsing into disorder, or a different order. Lacking alternative conceptual schemes, we find it difficult to discard this "obvious" model. 29

'Reason respects the differences and imagination the similitude of things.'
Shelley

The critique of the exercises focuses on the general shortcomings and strengths amongst all of the projects as well as each individually. This process is used to clarify, in a new set of goals and criteria (see guidelines), those conditions that could be used in the synthesis process and in the final projection. It is also valuable to note the problems in the exercises to understand what you would choose not to do.

GENERAL CRITIQUE

1. Each of the projects may in fact be too large in its scope of reorganizing the city. The magnitude of the projections don't "fit" the city and thus the advocacy position can not be fairly evaluated. An alternative would be to develop the minimum form of the advocacies.

2. The advocacies are possibly too singular in their intent and so become cartoons or exaggerations of ideas. Though each project intends to incorporate a range of goals they do so from too much
of a static viewpoint. The problem then is as to the value of the conclusions drawn from cartoons for the synthesis work.

3. There is also a question as to the appropriateness of the scenario of a large scale development and the feeling that more could have been done for the city with less effort if the emphasis was more diffused.

4. The impact that these projections would have on Church Street is not clear. It is possible that the mixed use activities of the new growth would create a competitive situation with Church Street. It is a question of how many centers a city can support and how different these centers could be made. The city would be made tripolar and even multi-polar in the proposed schemes instead of the dipolar situation which will exist between Church Street and its waterfront. It would be possible to develop this zone in between more as an

Are the projects "accident prone", whereby the life of the parts are dependent on the tenuous completion of the whole.

Architecture is concerned with finding the pattern of buildings and communications which makes the community function and, at the same time, gives it meaning. To make the community comprehensible to itself—to give it identity—is also the work of the politician and the poet, but it is the work of the architect to make it visible. The way he did this in the past was to create building types which by themselves read 'house' or 'church' or 'shop' and which in combination read 'particular community'.

Burlington is not Church Street nor the waterfront alone, it must be more. Church Street and the waterfront are only a part of Burlington's larger meaning.
Life is the exception not the standard.

extension of both, overlapping, rather than its own entity and thus not disrupt the existing relationship. Another alternative would be to establish blatant differences in the use/image of the centers, thereby reducing competition.

5. It is important that the new development not take on a "project" character in which the new activity is very self-sufficient and internal to itself. There is a need to establish an exchange with the city in which both the new development and the existing tissue provide some of the life that the other needs. Neither should be complete to itself.

6. The new places of the city must be able to accommodate a range of use similar to that of the existing fabric, otherwise they will come to represent the singular special event and exclude the activity of everyday existence.

7. The new building forms are in most cases very different from the existing. Any new order of form must be a trans-
formation from the existing fabric/structures when they are used together or it can not take advantage of the existing meaning and associations. The directness of the transformation can be made optional only after a clear relationship has been established.

8. In general the building types are not specific nor well developed enough. The exercises have not explored the character of the projected built form and must in order to understand their implications on the city.

"The city is made by buildings." F.D.

9. The analysis of the meaning of the landscape, in particular the topography, to the use and form of the city is an essential process in the understanding of Burlington as a place. Each of the approaches has addressed this need in very different ways creating a valuable range of interpretations. Yet the work could be supplemented by more sectional studies to assure this understanding.

10. Any projection must develop multiple linkages with the waterfront area. Scheme "B" and "C" imply this, while in scheme "D" the exchange achieves its maximum condition.

11. There is obvious need and pressure to build up the use on the waterfront. To build parallel with it a barrier is easily made between the water and the city. This has clearly been the case in the urban renewal buildings (Chittenden Bank, Radisson Hotel) and is a potential problem with the Ben Thompson proposal. As well, the barrier which is built by Battery Street with the traffic, must not be repeated on Lake Street. On the other hand, the extension into the water with wharfs and docks reduces the publicness of the edge by formally privatizing its parts. This was clearly the case when the waterfront was a commercial and shipping center. Every effort must be made to maximize the connection between the waterfront and the city and to provide a sufficiently public waterfront.
ALTERNATIVE ADVOCACIES

There was a lot of discussion as to whether the advocacies taken represented sufficient range from which to establish an editorial synthesis. The exercises did suffer from a strong bias which tended to make them read more as caricatures of the same genre. A greater range of approaches would have provided a more valuable basis for comparison. Some alternate design advocacies could be:

- to work with the existing grid exclusively restoring it in the urban renewal area.
- develop an image of the city advocating the automobile access and parking; as this is, in reality, a frighteningly prominent form determinant.
- potentially increase the scope of the projects and diffuse its effect throughout the city so as to reduce the focusing of effort on one place in the city. "This has been termed a bottom-up advocacy." J.W.
- develop an understanding of the form of the city were it to develop more organically, over time, within a continually changing framework of acceptable form.

Another kind of advocacy design process, is found in architectural design competitions, where each participant is given a similar set of criteria to satisfy and then advocates a "parti" solution. The problem with this process is that it stops there and an advocate is chosen rather than a further synthesis developed.

There are some interesting comparisons in the alternative forms of advocacy design. One example is the range of M.I.T. dormitories which have been built over the last 40 years along Memorial Drive. Each building represents a different form of advocacy determined by a new program and a different architectural style. Yet each of the buildings is comparable in the constraints of site/size, context, and use-type. It is obvious that each building is designed afresh and does not develop from a synthesis position.
CRITIQUE OF INDIVIDUAL EXERCISES

This critique of the individual exercises focuses on those ramifications of each project that can be directly used to inform a synthesis process and the analysis conclusions. In the process of developing the projections, implicit evaluation has been occurring which would color any future approach which is taken. This is a part of the analysis process which can't be objectified but provides a valuable component to the design process.

model of a design advocating the restoration of the previous grid structure
Design Exercise "A"

- In general this project was most successful in interpreting and extending the built spatial structure and meaning of the place.
- The use of the blocks as a semi-public condition allows for a greater range of use.
- The development of skewed spaces within the blocks can be used to elaborate this range and provides a positive relationship with the existing contours.
- The N-S directional place proposed on St. Paul Street may be difficult to achieve as it must be something different enough from Church Street. The Civic area is too internalized within the block as a result of the urban renewal buildings. It could be more of a part of the pedestrian continuity.
Design Exercise "B"

- This project has developed an alternative access system to the grid with the diagonal which provides a greater association with the landscape.
- The diagonal does not set up enough of an exchange with the existing tissue.
- The diagonal has extended to the drop off at Battery Park and needs to be leading to something at that point.
- The scheme is too internalized within the Civic diagonal paths and places, and there should be more of an overlap with College Street to reduce this distinction and the competition between the two activities.
Design Exercise "C"

- In general the megaform has a size and geometry condition which can be out of place and overly powerful in the city. If built as a singular structure the continuity would be too strong and thus must be built from smaller, identifiable dimensions.
- The view down to the lake would be lost on the flat floor platforms, denying the characteristics of the existing topography. Another alternative would be to slope and step these floors like the existing streets. The platforms should extend to the waterfront in more than just two places, so as to reduce the singular/dual linkage and to build up a field of these floors.
Design Exercise "D"

- This project in general makes a better connection to the waterfront as well as the larger landscape. Though the understanding of the uniqueness of this landscape may not be comprehensive enough.

- The idea of the sheltering bay is a good analogy to bring to the spaces. Scheme "D" (2) also suggests a positive/negative relationship between the water and land establishing a strong continuity from Church Street to the waterfront with the water.

- The form of the public space has little relationship to that of the existing context and thereby excludes associative understanding.

- The larger definitions are found within the grid consequently creating a conflict with the existing tissue. An alternative would be to build the more continuous buildings outside of the grid ie: below Battery Park.

- The blocking of the view to the water along the streets destroys a very powerful condition of the place. It must be assumed that the remaining streets which still allow this be maintained. The possibility of shifting the access off the street/grid yet still maintaining the continuity of the view down the street is still a possibility.
How then choose the interesting fact, the one that begins again and again? Method is precisely this choice of facts; it is needful then to be occupied first with creating a method; and many have been imagined, since none imposes itself. It's proper to begin with the regular facts, but after a rule is established beyond all doubt, the facts in conformity with it become dull because they no longer teach us anything new. Then it's the exception that becomes important. We seek not resemblances but differences, choose the most accentuated differences because they're the most striking and also the most instructive.

We first seek the cases in which this rule has the greatest chance of failing; by going very far away in space or very far away in time, we may find our usual rules entirely overturned, and these grand overturnings enable us the better to see the little changes that may happen nearer to us. But what we ought to aim at is less the ascertainment of resemblances and differences than the recognition of likenesses hidden under apparent divergences. Particular rules seem at first discordant, but looking more closely we see in general that they resemble each other; different as to matter, they are alike as to form, as to the order of their parts. When we look at them with this bias we shall see them enlarge and tend to embrace everything. And this it is that makes the value of certain facts that come to complete an assemblage and to show that it is the faithful image of other known assemblages.

In order to structure an understanding of what has been done, particular resemblances and differences between each of the projects can be understood with the overlay of certain categorizing frameworks. Each of the exercises develops its physical form through the acceptance of distinct ordering principles in combination with the particular assumptions taken by the advocacy. These frames of reference, as a background for comparison, are each a range of application or interpretation of some ordering type, which can be distilled from each of the exercises. There are certainly a great number of these, a few of which have been illustrated here.
In Kevin Lynch's book, *A Theory of Good City Form*, he suggests three normative metaphors as being those models which can be used to describe the development of any city form. The design exercise which is most closely associated with each position is noted:

1. The magical or cosmic model of the city, a complete whole

2. The city as a machine, additive stable parts

3. The city as an organism of complex symbiotic parts

The cosmic model upholds the ideal of a crystalline city: stable and hierarchical—a magical microcosm in which each part is fused into a perfectly ordered whole. If it changes at all, the microcosm should do so in some rhythmical, ordered, completely unchanging cycle. Thinking of the city as a practical machine, on the other hand, is an utterly different conception. A machine also has permanent parts, but those parts move and move each other. The whole machine can change, although it does so in some clearly predictable way, as by moving steadily along some predetermined track. The stability is inherent in the parts, and not in the whole. The parts are small, definite, often similar to each other, and they are mechanically linked. The whole grows by addition. It has no wider meaning; it is simply the sum of its parts. It can be taken apart, put together, reversed, its pieces replaced, and it will run again. It is factual, functional, "cool," not magical at all. The parts are autonomous except for their prescribed linkages. It does what it does, no more.

If a city is an organism, then it has some characteristic features that distinguish living creatures from machines. An organism is an autonomous individual with a definite boundary and of a definite size. It does not change its size by simple extension or swelling or limitless adding of parts, but reorganizes its form as its size changes, and reaches limits, or thresholds, where the change in form is a radical one. While it has a sharp external boundary, it is not so easy to divide it internally. It does have differentiated parts, but these parts are in close contact with each other and may not be sharply bounded. They work together and influence each other in subtle ways. Form and function are indissolubly linked, and the function of the whole is complex, not to be understood simply by knowing the nature of the parts, since the parts working together are quite different from the mere collection of them. The whole organism is dynamic, but it is a homeostatic dynamism: internal adjustments tend to return the organism to some balanced state whenever it has been disturbed by any outside force. So it is self-regulating. It is also self-organizing. It repairs itself, produces new individuals, and goes through a cycle of birth, growth, maturity, and death. Rhythmic, cyclical action is normal, from the life cycle itself down to heartbeat, respiration, and nerve pulsation. Organisms are purposeful. They can be sick or well or undergo stress. They must be understood as dynamic wholes. Emotional feelings of wonder and affection accompany our observation of these entities.
There are two types of order of spatial structure, organic order and geometric order. An organic order is unpredictable; one cannot foretell how the parts of the town are arranged nor how one will move through the town, but the organization is revealed and understood as one travels through it. An organic order is an extension of nature; public spatial structure bends with the contours and waterways of the topography. A geometric order is predictable, one knows beforehand what is about to occur and the organization is immediately understood. An intellectual concept of order is imposed on the natural landscape.

Renee Chow in her thesis assumes two kinds of order (geometric and organic) of a city's spatial structure and five types of form that could result:

**Geometric order**
1. Grid.................................(A)
2. Axial.........................A linear C linear
3. Radial.........................B multifocal

**Organic order**
4. Scattered.............D linear (B) multifocal
5. Clustered...............(A) clustered
Ching addresses the question of order by supposing five types of spatial organization:

1. Centralized
2. Linear
3. Radial
4. Clustered
5. Grid

**CENTRALIZED**
A central, dominant space about which a number of secondary spaces are grouped.

**LINEAR**
A linear sequence of repetitive spaces.

**RADIAL**
A central space from which linear organizations of space extend in a radial manner.

**CLUSTERED**
Spaces grouped by proximity or the sharing of a common visual trait or relationship.

**GRID**
Spaces organized within the field of a structural or other three-dimensional grid.
The checkerboard grid is a non-determining form. Any differences in direction and continuity of access and use is provided by the landscape/contour. This understanding of place can be reinforced by introducing a difference between directions in the grid. Each exercise has taken a position towards this in developing a relationship between the new development and the Church Street/waterfront pedestrian access. The ways of using the grid as an "enabling form" are:

1. Intensification of one direction within the existing grid dimension...........................(A)(B)
2. A larger dimension used to reinforce one direction..................A,C
3. A bisection of the orthogonal to introduce a new primary direction..............................B
4. Dissolving of the form of the grid altogether thereby allowing the urban structure to be informed by something else.............D
And Maki, in his discussion of collective form, establishes five types of linkage with which understandable continuities within an environment can be created:

1. To mediate..........................A,D
2. To define.............................(C)
3. To repeat.......................B,C(A)(D)
4. To make functional path........(A)(B)(D)
5. To select.............................(D)

Urban design is ever concerned with the question of making comprehensible links between discrete things. As a corollary, it is concerned with making an extremely large entity comprehensible by articulating its parts.

The city is combinations of discrete forms and articulated large forms. It is collective form—the agglomerate of decisions (and abnegations from decision) in the past concerning the way in which things fit together, or are linked. Linking, or disclosing linkage (articulating the large entity), are invariant activities in making collective form.

Linkage is simply the glue of the city. It is the act by which we unite all the layers of activity and resulting physical form in the city.

Insofar as linkage is successful, the city is a recognizable and humanly understandable entity. We are at home with it. We depend on understanding how two events within a city are combined to make a living sequence, and we depend on understanding how the way we can get from place to place in the city. Each at its own level contributes to our ability to know and enjoy experience—social, temporal, and spatial linkage.

...It is this finding of common elements, dimensions, and uses, which make an environment understandable as a whole. Additionally, it is the way in which elements are transformed and accept meaningful differences that make the possibilities and multiplicity of life known and useful...

...The linkage to mediate is illustrated by the stoop, i.e. the 'functional transition'. I would further expand the definition of mediated spaces as 'zones of exchange' where territories are created that are part of both 'worlds'.

To define, is as to surround with wall in the fashion of a monastery or a medieval walled city. This can be thought of as a gathering of territories (places) through containment.

To repeat, means to introduce a common factor; either form, material, or function. This continuity is exemplified in qualities of repetition within building method, or as in a formal property such as direction. The use of similarity is one of the basic ways people learn to associate things.

'To make a sequential path' implies a continuity of events, movement and orientation.

The linkage of 'to select or establish unity in advance of the design process by choice' is illustrated by Maki with the Greek Peninsula's towns of Miletus and Priene. He states "the designer can make use of a prominent piece of land...that will both affect his design and be a unifying visual force."
This urban design attitude towards multiplicity which has been the theme throughout this thesis assumes a dialectic process as the means by which analysis can be generated. The sequence of an approach, which develops priorities of some criteria on which to base a formal projection, is then evaluated in a way that increases our understanding of the place. The same sequence is used to develop the syntheses. The larger sequence of the design process can be represented like this: Develop criteria to
advocacies to syntheses to guidelines to design. The synthesis is seen as another step in the process in which further criteria is generated. The process is a means through which to germinate a greater base of analysis to inform the final design projection.

The individual synthesis is taken to be another type of advocacy in which an idea or approach is given priority to structure the projection. The difference being that the input comes from the advocacies rather than from the complete range of criteria. Another characteristic of the synthesis input is that the multiple advocacies are structuring forms through methodology which is different than the advocacy of forms or types themselves. The synthesis projection is less form specific and has a greater range of interpretation as a result.

The interpretation of any new information is necessarily predicated by the framework we arrive with. This framework becomes a mold for the virgin thoughts and thus we end up with a packaged predetermined "synthesis", which we can happily offer up to the world as the product of a vital imagination.

1. A hose in waterproof paper that you can carry around with you, and which you can afford to hurt when you are through with it or when you are cross.

2. A honeymoon house which you must eat your way out of.

3. A house of nakedness where all the people can see each other, but they are separate and cannot speak.

4. A house with all its parts moving all the time—the walls turning, the floors revolving and dipping up and down, the lamps caroming across the ceiling, the chairs constantly altering themselves from one style into another, the rooms changing color and function, etc.

5. A flexible skyscraper made of fused silicon, and which slowly blows away.
A synthesis can be developed either through a collage process of cut-outs from the existing design exercises or through interpretations of the information in new design. Each synthesis will take a position on how to interpret the input, some possibilities are:

1. Use one advocacy projection and then selectively enrich it with the characteristics of the others.

2. Develop a new position in the interpretation of the criteria and use the forms generated by the advocacies (in conjunction with new design).

3. Establish a priority from the evaluation critique and choose aspects freely from each of the design exercises (in conjunction with new design).

4. Disregard altogether the forms and organizations generated by the design exercises and develop
a new approach based on the evaluation of the design exercises.

Collage is the method that was used in the two syntheses which have been included. Actual pieces of the design exercises are cut out and put together in an alternative fashion. One of the exercises was used as a base drawing on which to add information. Another starting point would be to use the city as is as the base drawing.

There is a question of what is to be collaged, whether it is the space, the building form or more generally the organization. A combination of the three seems to offer a better range of interpretation. It is necessary, as well, to transform the existing fragments as they are collaged by adding more information directly. The amount of additional (not cut out) information will vary according to the position taken by the synthesis.
Because of the nature of the contour, it is relatively easy to extend College Street and those to the south right down to the water's edge. But the slope prevents this to the north; this becomes instead the area in which to extend the contour into the city, partially deforming the grid.

In synthesis "A" the approach suggested in #1 is taken in which design exercise "A" is used as a base and enriched by some of the other assumptions. In particular this synthesis advocates a strong N-S directional place continuity especially in the area north of College Street, while at the same time the form of College Street and the block south, being directly built to the waterfront, is used. The diagonal is also integrated into the plan which provides for more public access to the blocks and a distinct relationship to the contour. The space of exercise "D" is then introduced as a transformation of the diagonal and an interruption of the grid.
Synthesis "B" is more aligned to an approach set forth in #3. In this case the primary intention is to build a range of connections to the waterfront. The grid is generally strengthened in the E-W direction and the internal block access moves parallel with this direction. Each of the exercises has contributed organization and form in a less structured way than the other synthesis.

These projections as collage do not have the kind of order which had been clearly exhibited in the design exercises. Especially #2, looks as if it was done by a random number selection on a computer or a paper shredder. The intended organization is not enough to accommodate for the increased range of form and space.
some guidelines

There are some common reactions and results in each of the design exercises. We can use this recurring criterion to develop an initial set of guidelines for the city to aid in a master planning process. These guidelines are broad and not necessarily inclusive yet the information is a valuable start.

The city must be accessible, not just in a barrier free sense, but in a way that extends the continuity of the public throughout and within the grid and towards and back from the water.
1. It is the landscape that makes Burlington a unique city, and gives the place its genus loci. In particular this is made apparent in the connection and association with the lake and mountains on the sloping west facing streets. Any proposal must understand the meaning and implications of the landscape as a form generator and seek to enhance this character of the place.

2. The existing grid and building tissue, including the spatial structure of the city, must first be understood in order to develop any new building which might exist in harmony with the city. New buildings and spaces will appear foreign or imposed unless the forms and dimensions have some relationship to the existing structure.

3. The city must be able to extend to the lake in a way which minimizes barriers to the pedestrian continuity. The urban renewal buildings tend to make this goal much more difficult to achieve by running their length perpendicular to this movement and cutting off the essential views to the lake.

4. The new civic activities and public spaces must provide a real exchange with the existing tissue of the city so as not to develop an internal world of their own. This requires some physical overlap of the new and old tissue.

5. And closely related with the last point, the design of the civic and public functions must be integrated with the "real" mixed-use life of the citizens. The activity cannot exclude the day to day experiences of living through the insistence of a special event.
Conclusions

Multiple design studies have been used as a basis for inclusive urban design. A single projection from one point of view can only produce intended results. There is no real discovery because we have worked that way before and cannot escape implicit assumptions and priorities. To be able to change our point of view in the advocacy of the elements of the multiple, can result in significant discovery and a basis for potentially useful results.

The goal is a pluralist environment which has multiple readings and optional associations. Places which enable a range of use at all times. And a city with a coherent understanding of its potential and its goals. This thesis offers some initial and limited discussion towards these goals in terms of the formal conclusions. But, much more importantly, the thesis indicates a process which should be developed in any further study and attempt to master-plan the city's form and its growth process.
visions of multiplicity

In conclusion I would like to put forth some ideas on appropriate city form and "visions of multiplicity". There are two types of questions which must be addressed as a part of this discussion. The first pertains to the necessity and clarity of city form. What should the form of the city look like? and How much order should be apparent in this form? There is a noticeable difference in the legibility between those projections in the Design Exercises and the ones in the Synthesis section. The clarity of the form, in the latter group, appears much less ordered, and there are a complex range of building types and spaces which seem to
have little to do with each other. The question then, which is a better image for the actual urban form? While the advocacy projections are simpler and more direct and thus appear to be more suitable, they cannot be. For these exercises are advocates of limited priorities and simple orders. Once this kind of order is imposed as the new vision of the city, it will undermine the necessary exchange and synergy of other images. Thus the vision of multiCity must be structured by many orders simultaneously and their composite form may very well be unrecognizable.

The second question pertains to the size at which the environment is ordered. What is the appropriate size of structure and continuity to assure the order of the environment? If we assume as a minimum, "the order which is necessary to make chaos work", then the question of size and kind of order becomes very selective. Immediately then, it is clear that the order at the size of the complete urban form is much less important than the order of and
between its parts. We can comprehend associations and memories at the size of buildings and blocks but this clarity at a larger size is unnecessary and actually an impediment to multipliCity.

The essential point here is that this multiple image is built by the addition of many ordering principles and systems of form. It is not the absence of order but the complexity of it. This complexity is built up to a minimum to achieve this diversity of understanding. At some point beyond this too many systems of order can create an unwanted confusion where by the parts lose their distinction and associative value.

Maurice Smith has presented a valuable description for the cataloging of form characteristics, and a process through which to understand the generation of a self-stable open field form. This somewhat cyclical process suggests a synthesis form which can be understood as the optional addition of simpler formal qualities. We can also assume that the better environments would
have exemplary qualities of most of these characteristics. As a result then, the explicitness of the final form is obscured by this multiple reading, or put more positively, the form is a multiplicity of order and association.
STILL LIFE WITH CHAIR CANING. Paris, winter 1911-12 (Z). Oil and pasted oilcloth simulating chair caning, oval 10⅝ x 13¾ inches. Owned by the artist who suggests that this may be dated 1911 and is his first collage.

Multiplicity as the clatter and scuttle, tally and ring:
of a well oiled pinball machine.
10  August Macke, Landschaft in Südfrankreich, 1914.
Bleistift, 20,3 x 15,2 cm. Düsseldorf, Kunstverwaltung, Graphische Sammlung
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Footnotes

- Excerpts and images are keyed to the bibliography.

- Pen and ink sketches of the city courtesy Meri Beauregard

- Model of the city courtesy Alexander & Truex