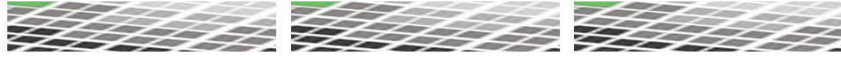

URBAN DESIGN ASSESSMENT



utilizing modern technology

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Theoretical Framework Project Justification

Project viability, no matter what profession you are a part of, is crucial to composing successful outcomes. Projects might seem interesting or unique, but if they cannot create a link to culture or society than why waste the time and effort. By developing a system that correlates data into visual solutions we are capable of linking a larger majority to the meaning and needs of specific projects. So often projects are designed and developed to meet the needs of a specific user, rarely are multiple facets looked at in order to create a project that affects society as a whole, giving them options and abilities they never knew were possible.

On a personal level my goal was not to only create a thought process that would develop a logical framework for design and increase efficiency but deliver a tool that could visualize multiple solutions in a feasible realm. By utilizing software to analyze data in an urban setting we can justify the positive growth of a community, producing necessary design decisions that would provide structure and feasibility for a developing and ever changing community. By continuously adding layers of information we can build upon existing conditions and see what layers have been forgotten about and see what layers can be manipulated in order to give a better overall design solution. Is it not a more comprehensive approach than to only add what we think is important versus looking at outlying information that could prove to enrich users experience and efficiency abilities?

Throughout the past century communities have been constantly evolving. From the basic design concepts of the Wild West, limited facilities or buildings centralized for easy access, all the way to the Urban sprawl that we are currently trying remedy, due to increased cost of resources and land development. New Urbanism was a concept that arose in the early 1980's that specifically targeted the idea of being able to access multiple facilities and needs by simply walking, instead of organizing and designing cities based off of the automobile. Without even thinking about it the main objective of New Urbanism was to minimize the use of natural resources and the depletion of usable space.

By incorporating basic design ideals of New Urbanism, such as smart growth, environmentalism, and regionalism we would be able to take efficient city and community development to the stage of city evolution if we would include passive design principles. The idea of walkable cities was to create an environment that did not revolve around the automobile, which in fact leads to the idea of sustainable design in a very simple sense. By collecting data and research we can correlate smart design with sustainable principles.

By utilizing state of the art software and technology we can create a one to one correlative study that can pinpoint the effects that wind studies, solar gains, passive orientation, internal cooling strategies and other passive concepts actually have on an environmental system the size

Theoretical Framework Project Justification Continued

of a community instead of just looking at spaces and buildings as individual pieces, but now investigate the community as a whole.

The basis is to explore the foundation of New Urbanism design approaches and to correlate with ancient, traditional, and modern passive design ideals. After the exploration the goal is to define and explain how closely linked passive design is with the idea of walkability and proper New Urbanism design layouts. By doing this I will be able to create a design model that can be incorporated into multiple situations in order to help predict and plan positive urban environments, areas that are correctly proportionate to the human scale and incorporate the best possible passive strategies. This will allow for a more people focused community, and a community that can be more environmentally conscious.

After the collection and analysis of the data my overall design idea is to create a modern example of urban design, one that meshes the idea of sustainability with usability. The goal is to be successful on both fronts without sacrificing in one area over the other.

Philosophical Framework Positivism and Phenomenology

The basic philosophical framework I am basing my research on is Positivism. Positivism allows for a more objective approach which fits into the framework of empirical evidence and scientific theories. The ability to quantify results with instruments and quantifiable evidence will allow for a more accurate relation between passive design strategies and new urbanism concepts. By having a direct correlation I am able to make appropriate conjectures about my data and therefore proceed accordingly. Also by continuing through the framework of Positivism/ Post Positivism I am able to keep myself the observer separate from the object in order to get results that can be used in a wider range of applications.

The idea of this thesis project is to see and to be able to quantify the concepts of using technology to create modern and efficient means to designing or re-designing urban spaces. By creating a prototype within the framework of layers and data points, one is capable of formulating concepts and solutions that directly relate to specific problem statements. The initial system was created to utilize geographical information systems or GIS. By utilizing such systems one is able to correlate multiple data sets within a fraction of the time and is capable of seeing overlaps within the information. The utilization of multiple layers provides the user with a level of control or purpose. As with many things not all sets of information directly correlate with one another. The purpose of the software is to extrapolate the correlation in either a direct or indirect fashion. Soil layers for example are now within the same realm as property use and to take it further we can see how property use, soil layers, and wind calculations now affect one another. By creating such a system we can input external design alternatives and see how they can be affected by all of the collected and inputted data sets. In short we have the capability of fast tracking design decisions based on numbers instead of pure opinion or want.

To create a link from the analytical information to positive and useful design we need to find a deeper bridge or connection to where we want to go and where we have come from. To do so phenomenology seems to be a direct path to achieve meaningful design. Phenomenology allows us connect paths of information that seem entirely separate or completely unrelatable, similar to the hopes of the created prototype software system. While phenomenology explains the experience it can also bridge the gap between new or different descriptions of something. This therefore allows us to connect the idea of looking at something in a new way with the possibilities of phenomenology and the GIS prototype concept.

Phenomenology

Throughout the modern age many definitions have been linked to the term or idea of phenomenology. Every discipline from philosophy to medicine has their own, more specified, description of what phenomenology is. Phenomenology comes from the Greek word Phainomenon and Logos

Philosophical Framework Positivism and Phenomenology Continued

Phainomenon means “that which appears” and logos means “to study”. The basic explanation of phenomenology given by the Merriam-Webster dictionary is the study of the development of the human consciousness and self-awareness as a preface to or as a part of philosophy. Going further, the medical definition within the same dictionary describes phenomenology as the way in which one perceives and interprets specific events and one’s relationship to them in contrast to both one’s objective responses to stimuli and to any inferred unconscious motivation for one’s behavior.

“A unique and final definition of phenomenology is dangerous and perhaps even paradoxical as it lacks a thematic focus. In fact, it is not a doctrine, nor a philosophical school, but rather a style of thought, a method, an open and ever-renewed experience having different results, and this may disorient anyone wishing to define the meaning of phenomenology”

Quote by Gabriella Farina, a Professor of Philosophy at the University Roma Tre, Rome.

Phenomenology can therefore be perceived as an idea that is always changing depending on the focus and the realm in which it is being evaluated within. Understanding phenomenology through the ideas of architecture alters the concept or definition, we can derive that within Architecture, phenomenology is the description or explanation of a built environment and the experience that one obtains through the interaction with such a space or environment. Experience, like most things, is not the same when you compare it from multiple viewers’ perception. Therefore the experience of architecture, the design and execution of built environments, carries an infinite amount of possibilities, dependent on specific groups of individuals and characteristics of those individuals. The basic principle of phenomenology seems to point towards the idea of multiple answers, none being more right or wrong than the next, just opening up a virtual dialogue that promotes the investigation of experience and ability of specific objects or spaces to create a viable response. There might be no right or wrong answer but we need to realize that our evaluations of our experiences alter our overall ideas and therefore the ideas of individuals around us.

During a seminar at the University of Houston in 1984, Dalibor Vesely spoke about phenomenology, and specifically the relationship it has with architecture, hence the transcript holds the title “On the Relevance of Phenomenology”. Almost immediately Vesely states that the term phenomenology is not what is important or the actual discipline of phenomenology, but what is important is the questions phenomenology raises in the areas of culture where we as individuals work. Vesely looks to link architecture and everyday occurrences with the expansion of phenomenology as a starting point of the conversation. Phenomenology begins to be a relevant term only if we establish the ability to link the cultural persona with the experience that is related or correlated to that experience.

Philosophical Framework Positivism and Phenomenology Continued

Phenomena, to some is the root of phenomenology. Phenomenology can be described as the study of phenomena, or simply stated the study of experience. Society seems to complicate ideas and concepts in order to fill a void, or give the false characterization of intelligence. The notion seems to be completely reversed from what reality should actually be striving for. If one is able to explain an idea, an idea that is far beyond the average comprehension, in a simple a concise manner, than what is stopping us from understanding that person is the embodiment of intelligence? The concept comes full circle when juggling the multitude of definitions and explanations of a simple concept. Phenomenology can therefore be understood simply as the study of experience and the characteristics of that experience related to anything beyond and including our consciousness.

The Link to Modern Design

Modern society as of recent is overly focused on fads or buzz words. Society throws out terms like green, sustainable, efficient, holistic and organic in order to give a false sense of importance. Modern culture always needs to feel as if we are progressing and revolutionizing standard ideas and techniques in order to feel like we are accomplishing something, the idea is to always move forward or else we will fall back, we can never reach a stand still. As a whole we need to understand that in order to progress and move forward we need to study and understand our past, our culture and historical relevance are major factors in who we are and what we are capable of accomplishing. Successful progress takes the shape of a cyclical system, a system always learning from itself and looking back on previous information, not a simple linear progression through time and space. In order to improve on the past and continue to make progress we need to establish and recognize the link that is created through space, or the void between objects and ideas. The ability to link the most obscure objects allows us to create our own thoughts, and allows us the opportunity to evaluate those thoughts compared to link, what is being linked, and what is beyond the link.

Classical or even pre-modern architecture never created a rift between disciplines; the possibilities seemed endless because areas of expertise were never specific or clarified by titles or realms of knowledge. Different realms of consciousness were readily allowed legitimacy, the communication between different realms, realities, and grounds allowed for the open communication of an era. This philosophy no longer manages the majority; most do not relish the idea of disciplines being merged into a collective melting pot of sorts. Modern culture delegates that we need separate disciplines, we need individuals that are experts at specific ideas, specific tasks. We no longer have the want to create a society based off of the Renaissance man, a polymath, a person whose expertise spans a significant number of different subject areas. We refer to the

Philosophical Framework Positivism and Phenomenology Continued

ideal as the Renaissance man because we are making a direct link to the specific period in time and history that we allowed knowledge to grow in more of a free and less grounded state. Our goal was to enlighten the minds and bodies of a civilization, the more knowledge one person could possess or understand only led to more knowledge that could be shared with the masses, or the collective consciousness.

If we look specifically at architecture and specific projects we are able to conclude a few main thoughts. Architecture that does not derive itself from the past, or some connection to historical culture, does not emanate deeper within individuals as a whole. Phenomenology within design can be boiled down to the ability of a built environment to evoke an experience, and therefore allow the experience to interact with multiple levels of our reality or the realm we reside in. If we continue to expand with haste we will eventually create an entire environment that has no meaning and cuts all ties with deeper emotional sense, we will no longer have spaces of worship that touch us in unspeakable ways. Places of sentimental value will be lost forever, and we will never know what it is too experience a place that alters how we experience everything around us, even though there is connection between all things on some level or realm of reality we will have successfully deleted every one of them, purely because we refused to use our past, our heritage and culture, to shape our future.

Architecture is the simple idea of an environment that is designed and created. Experience is the basic connection one has with the world and objects around us. Phenomenology gives us the ability to link multiple different realities, realities that think and understand in different ways, and provides us the opportunity to comprehend the conversation. Without the understanding of phenomenology we are destined to fail at creating anything that can speak beyond itself.

Summary

The basic unifying idea for the redevelopment or design of urban spaces using data collection software is the ability to connect points of interest through a new concept or idea. As discussed phenomenology has the capability of explaining or divulging different sensory experiences within our consciousness along with how we interact with the built environment. Utilizing this path of theory one is able to make links that are either obscured or even not evident. By adapting the connection between phenomenology and the creation of modern architectural pursuits we can clearly see the possible abilities of a system that uses data points to link deeper to design ideas and efficient solution design. It is no longer an environment where we choose to either use logic or emotion, but the two can be intertwined in order to get the best results of both schools of thought.

Tactics Prototype Creation

Within the tactics of my research I have decided on a 3 step approach. First I am having a prototype system within ArcMap developed that will consist of all possible layer states that correlate to project decisions or development layout solutions. After developing the map package we will be able to create query layers, layers that consist of inputted data and design proposals. By inputting design proposals we can easily correlate multiple solutions within a smaller framework in order to calculate and decide on particular ideas and concepts. By using parametric data we can correlate multiple areas of information simultaneously, creating a working model of knowledge that can be adapted for almost any project. After correlating the data the final step is to use the information to make final design decisions. Anywhere from project layout, size, use, and design guidelines, etc., etc. . . .

The idea is to be able to measure and calculate different forms of data: Measure wind volumes in miles per hour, within an overlaid wind rose diagram that shows the intensity and volume for specific areas. Measurement tools for calculating and measuring distances in order to verify efficiencies, and to calculate times and appropriate values for specific project parameters.

Utilizing Arc Map we are able to create Geo-processing layers, layers that we can input information on in order to correlate specific data points. These layers will encompass the realm of input in order to allow us to compare multiple options in one calculation or set of equations. The parametric modeling will allow us to compare sets of information that before were unrelated or unable to be put into similar categories for documentation and study.

Since my design concept has developed more to the side of technology and using specific systems to correlate parametric data my overall goals have shifted slightly. I want to be able to create a prototype system that can be adapted to any design problem. By utilizing this prototype designers will be able to calculate specific data quickly and efficiently. Designs will now take into account various forms of raster data such as, geothermal, economical, socioeconomic, and so on. By designing alongside technology in this way we are able to get the most efficient and logical designs out of specific projects.

- To explore the relationship between urban design principles and passive design strategies
- To incorporate experimental observations and data into logical and relatable design models
- Produce an urban design for a deflated city center that correlates information and design principles in order to relate ideas and concepts in a fluid expression of a modern urban area.

Software Applications

Arc GIS 10.2

Arc Map

AutoCAD 2016

Query Layers

Raster Layers

Vector and Raster Data

Correlation nodes and points

Geographical information

Layer Identity

By incorporating multiple levels or layers of information one is able to specifically correlate information between multiple parameters.

Land Use

-Cites and town division

-Rights and Intersects

-Site Use

-Parcel information

-Zones

-Site Address

-Site Restrictions

-Building Footprints

Hydrology

-Lakes, Streams, and Rivers

-Flood Elevations

-Drainage

-Water Tables

-Flood Data

Topography/ Elevations

Transportation

-Nodes

-Network

Soil Information

Wind Rose Corridors/ Zones

Vegetation

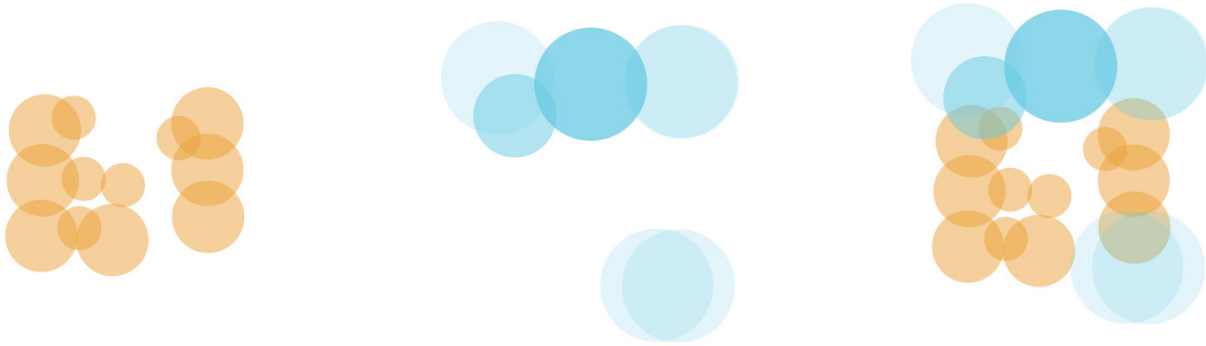
Demographics

Land Cover

Aerial Imagery

Geothermal Nodes

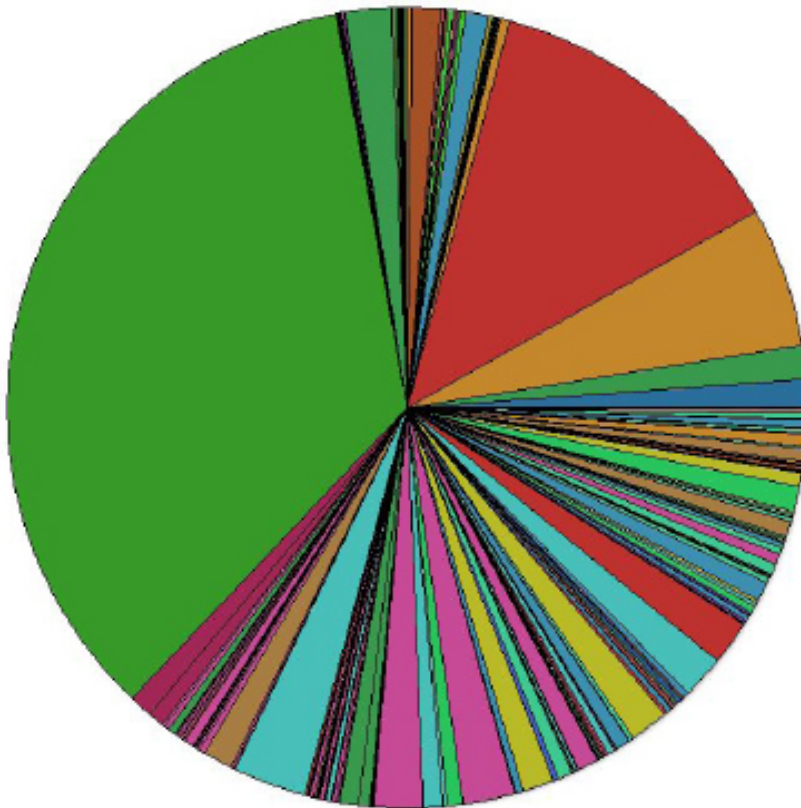
Solar Gain Information



The software created through ArcMap 10.2 creates a visual link between different sets of information. To simply state this logic the three images above show crude relationship between separate sets of information, when the sets of data are viewed separately they simply show a size relation between the info. When the information is laid on top of one another one is able to make inter data correlations. It is easy to see the areas that interact with one another. The software allows us to find these relationships and than analyze how we can use the underlying information.

Similar to systems used by city organizations all over the world, the prototype system acts in a very similar way. By utilizing the software one can select a specific set of information and create graphics within a matter of minutes. By altering the different parameters that have already been entered one can make multiple different images or sets of graphics and alter the correlating data just by setting new data outliers. Take for instance the pie chart, originally the information was specified for soil area, but by selecting soil typology and name an entirely different chart is created, one with different ratios and color combinations

Graph of Soil_Moorehead

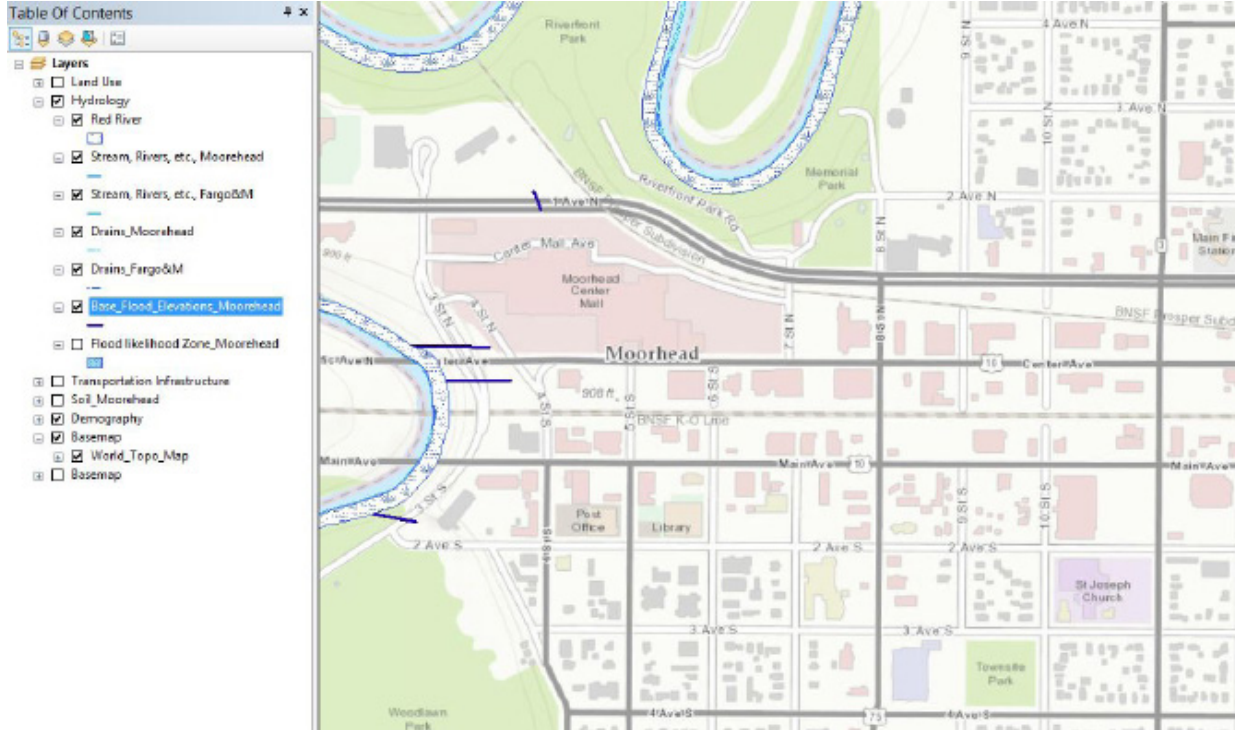


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25,414,580.088	WAHPETON SILTY CLAY, 0 TO 2 PERCENT SLOPES
78,885,795	BEARDEN SILTY CLAY LOAM
2,280,280.751	WAHPETON SILTY CLAY, 0 TO 2 PERCENT SLOPES
309,746.961	FARGO SILTY CLAY, 0 TO 2 PERCENT SLOPES
146,919.88	HARLAQUILLS AND UDLFLUENTS, LEVEL
11,916.669	WAHPETON SILTY CLAY, 2 TO 6 PERCENT SLOPES
270,069.185	CASHEL SILTY CLAY
63,405.279	WAHPETON SILTY CLAY, 2 TO 6 PERCENT SLOPES
123,318.850	FLUVAQUENTS, LOAMY
132,083.931	FARGO SILTY CLAY, SWALES
255,932.44	WAHPETON SILTY CLAY, 6 TO 12 PERCENT SLOPES
309,488.6	FARGO SILTY CLAY, SWALES
289,220.341	CASHEL SILTY CLAY
1,020,291.325	HARLAQUILLS AND UDLFLUENTS, LEVEL
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235,025.497	WAHPETON SILTY CLAY, 2 TO 6 PERCENT SLOPES
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705,633.682	WAHPETON SILTY CLAY, 0 TO 2 PERCENT SLOPES
244,825.264	CASHEL SILTY CLAY
839,283.791	WHEATVILLE SILT LOAM, 0 TO 2 PERCENT SLOPES
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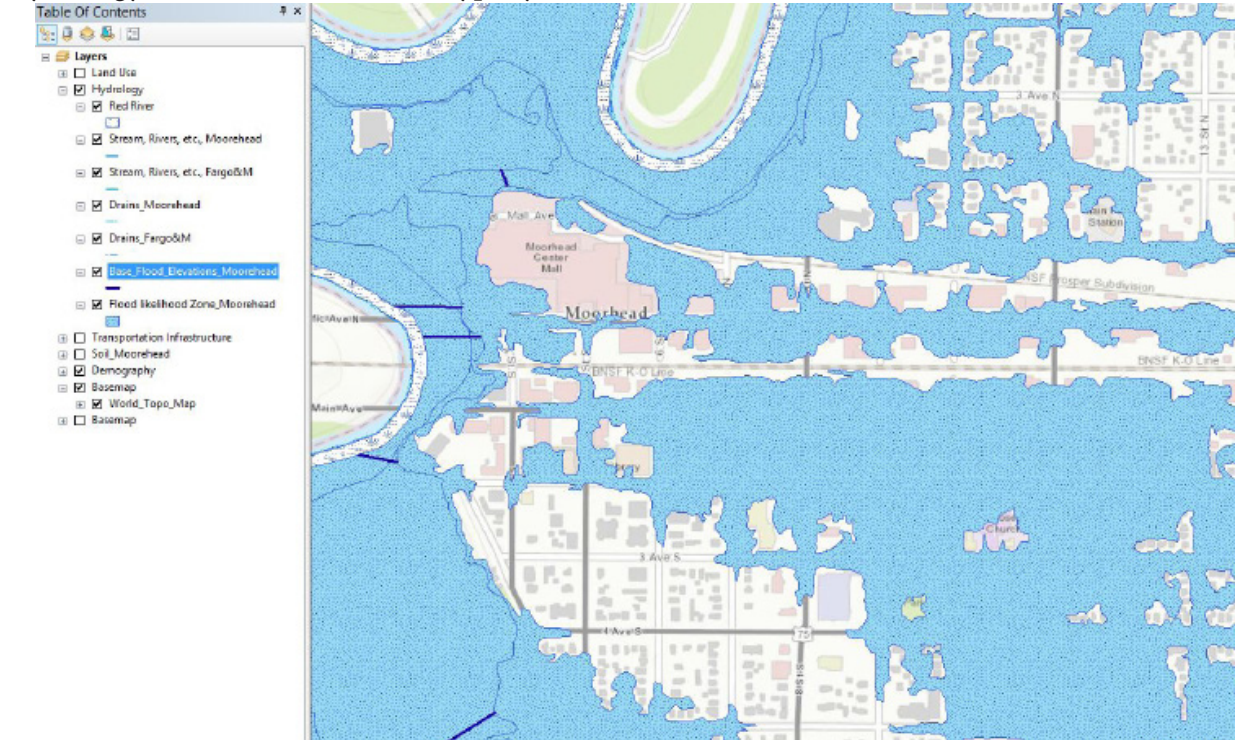
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 - BEARDEN SILTY CLAY LOAM
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- Demography
- Basemap
- World_Topo_Map
- Basemap





Hydrology Information, GIS Prototype system



Moorhead Base Flood Data, GIS Prototype system

Table

Base_Flood_Elevations_Moorehead

FID	Shape *	ELEV	LEN_UNIT	V_DATUM	COUNTY	Shape_Leng
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68	Polyline	901	FEET	NAVD88	CLAY	51.855582
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82	Polyline	895	FEET	NAVD88	CLAY	103.349929
83	Polyline	896	FEET	NAVD88	CLAY	87.052725
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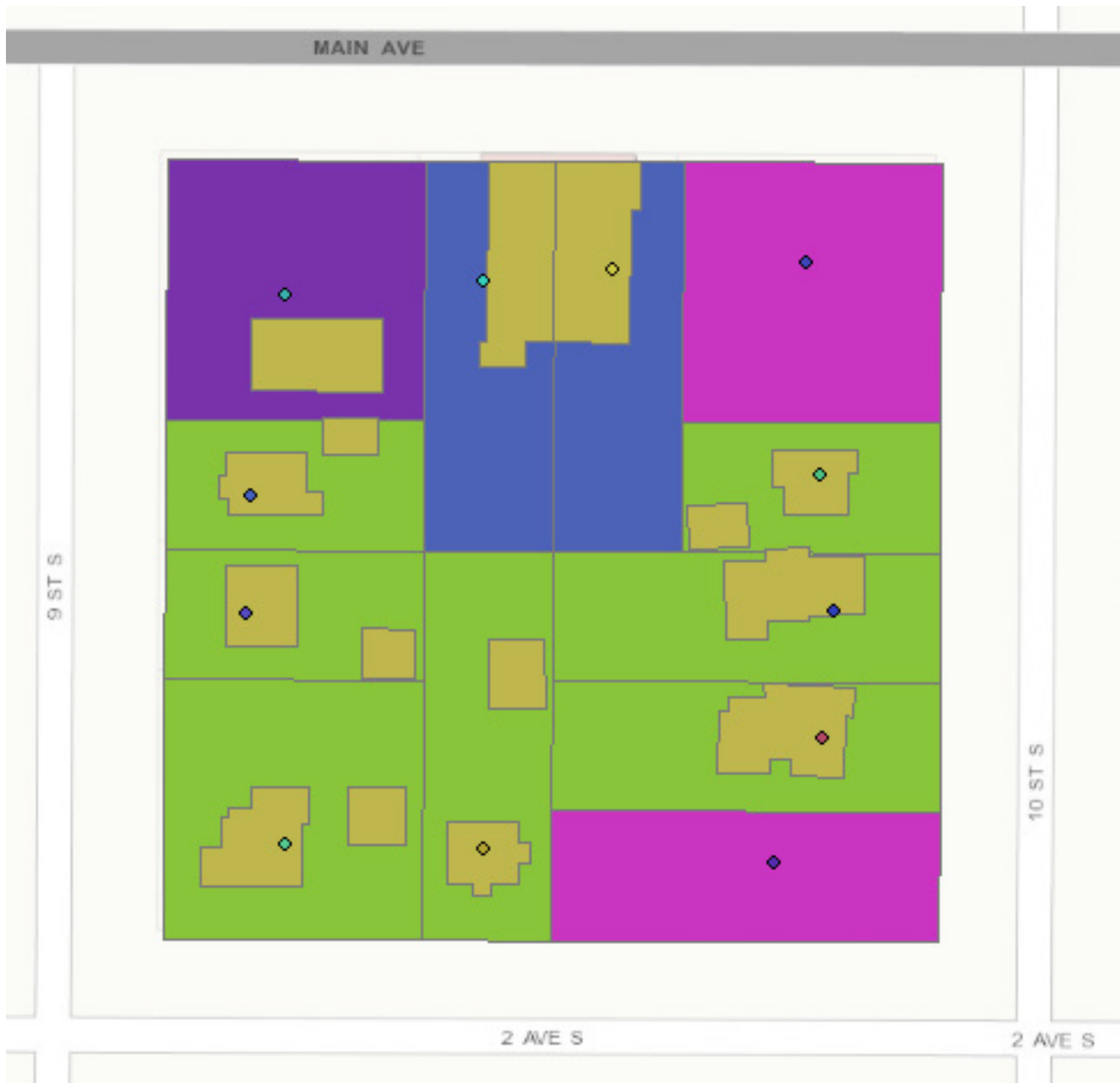
Base_Flood_Elevations_Moorehead (0 out of 103 Selected)

Arc Map utilizes a system that internalizes information within data points. By doing so the software can recall the specific data points and recreate them in almost any combination and form. Simply stated the software system allows one to take the exact information and create graphical data or maps, excel charts, pie charts, bar graphs, and the list goes on and on. The possibilities are multiplied when you correlate two or more separate sets of information. Say you take the information held within the hydrology layer and you join it with that of the topography data. You are now capable of visually seeing the correlation sector of the information and one can take the intersecting information and utilize it for analysis.

GIS Prototype system, Flood Elev. Data set

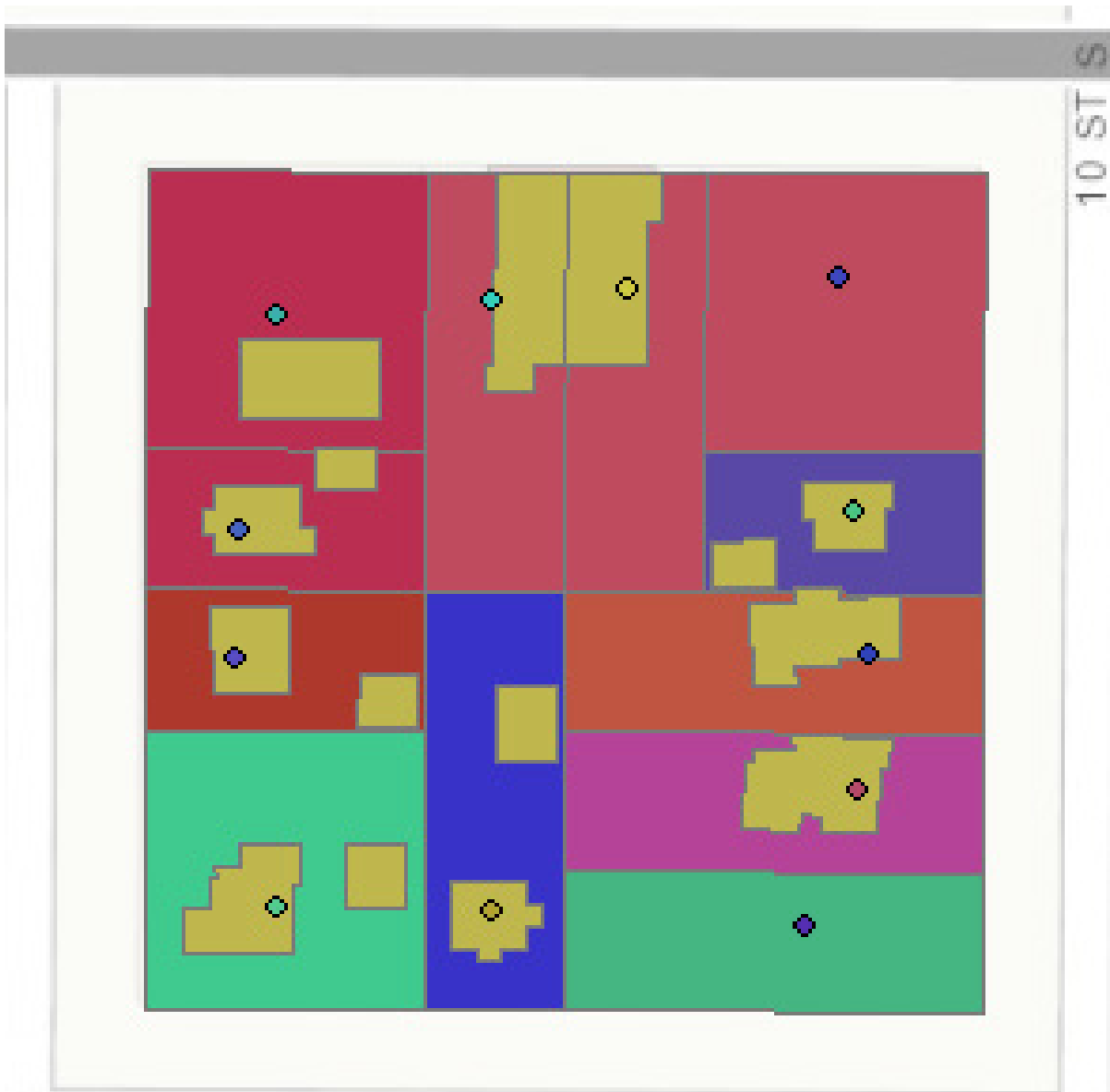
Tactics Prototype Imagery

- | | |
|--------------------------|---------------------------|
| AGRICULTURAL FACILITIES | PUBLIC ASSEMBLY |
| GENERAL COMMERCIAL | SINGLE FAMILY RESIDENTIAL |
| HEAVY INDUSTRIAL | TRANSPORTATION |
| INDUSTRIAL | UTILITY, NON-BUILDING |
| INSTITUTIONAL, COMMUNITY | VACANT |
| LIGHT INDUSTRIAL | VACANT, AG-LAND |
| MIXED-USE | VACANT, PARK-LAND |
| MULTI-FAMILY RESIDENTIAL | VACANT, ROW |



Land Use and Zoning Map (GIS Prototype System)

- | | |
|------------------------------|-------------------------------|
| (1) -109 10th St S, Moorhead | (7) -903 Main Ave, Moorhead |
| (2) -110 9th St S, Moorhead | (8) -910 2nd Ave S, Moorhead |
| (3) -113 10th St S, Moorhead | (9) -913 Main Ave, Moorhead |
| (4) -114 9th St S, Moorhead | (10) -914 2nd Ave S, Moorhead |
| (5) -119 10th St S, Moorhead | (11) -915 Main Ave, Moorhead |
| (6) -124 9th St S, Moorhead | (12) -923 Main Ave., Moorhead |



Parcel and Address Map (GIS Prototype System)

Literary Reviews *The Thinker and The Painter*

The Thinker and the Painter by Jacques Taminiaux

Translated by Michael Gendre in “The Merleau-Ponty Aesthetics Reader”

Jacques Taminiaux Background

Jacques Taminiaux is a Belgian philosopher born May 29, 1928. Jacques Taminiaux has been a professor since 1989 at Boston College in Chestnut Hill, Massachusetts . He studied philosophy at the Universite Catholique de Louvain (Louvain-la-Neuve, Belgium). His major focuses and areas of research interests are on phenomenology, aesthetics, political philosophy, and contemporary continental philosophy. Together with Herman Van Breda, he worked on the Husserl-Archives Leuven at the Higher Institute of Philosophy of the Catholic University of Leuven. In 1977, he was awarded the Francqui Prize on Human Sciences for his work on the history of philosophy.

The Thinker and the Painter

Taminiaux wrote the critical essay, “The Thinker and the Painter” in order to create a connection or link. He believed that with-in Merleau-Ponty’s eyes there was common ground, or a link between the activity of a philosopher and that of a painter. This ideal suggests that in some basic form, there is a correlation that creates common ground in which both the ideals and devotion of philosophy and painting can be related and therefore communicate with one another. This simplistic notion seems to be contradicted at a base level, all the way back to a pioneer of Western philosophical tradition, Plato. Plato maintains that within the Republic, to paint corresponds to the idea that one refuses to think, in the same thought the activity to think requires a level of detachment from perception and that which is perceived. To the painter all importance comes from the element of perception, to relay and manipulate ones perceived environment. Plato goes on to explain that to paint is to refuse to think, the painter is par excellence for he is the one who takes sides with appearances, which are labeled adverse to being. A painter copies the appearances without ever taking into consideration the essence, he deals with copies without ever being concerned with the models they come from. The painter fails to recognize that beyond the surface, it is possible for the mind to have access to the clear and peaceful ordering of intelligible ideas, but to do so the mind must be detached from the sensible realm. As to do this is to access the being beyond appearance, to scrape away all ambiguities of the sensible framework and to see and understand what is actually there. To Plato the Philosopher is capable of clearly understanding that which the painter only tries to capture and reproduce, but within this framework of thought and within doing so the painter allows himself to then be led astray by something that does not exist, the nonbeing. Being that the painter is only fascinated by the sensible appearance of things, he then only creates and produces reflections of reflections, having no meaning or definition in the sensible realm.

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Perception

Taminiaux states that Merleau-Ponty understood to think does not mean to turn away from the perceived but embrace it and allow it the status of the first ground. He embraces the idea of dwelling within the boundaries of perception, to be able to listen to the echoes, to interrogate it, and to always go back to what is perceived. In Taminiaux's words the perceived never presents itself as some strictly individual feature, some singular form, or some incomparable color. Instead perception is known to generalize along with providing a stylized ideal. When dealing with the perception of color we do not see a specific color but a variation or an example of color, it becomes more non-specific. Along with the stylization, the example given was a single tree, we look at the tree as a single form at the same time that we correlate it to a type of tree. In this state we contemplate how it connects to all other trees, creating a link to a larger body of information. In addition to the overlapping of particular and general, the perceived attests to a surprising overlap of our fellow beings and the "I," a pluralistic intertwining of multiple subjects. Taminiaux goes on to reveal that the profiles of a specific thing or object stay the same for one with an unchanged view or vantage point yet when viewed through a different point from an individual with different thoughts or beliefs an entirely different profile of the thing is created or manifested. This point directly corroborates one of Husserl's main objective motto's: "We see and we understand not simply as an individual among other individuals, but as individuals along with others." Simply stated, our perceptions of things and known objects are coincidentally related not only to our own ideas but also those of individuals and groups that occupy the same realm and space.

Painting

As stated earlier within the essay Taminiaux described painting to be merely the act of representing a reflection with a reflection, not attempting to disregard the need or importance of painting but to put it within a platonic view point. Taminiaux now dives deeper into the theory behind the painting when he links the idea of overlapping in perception and how it corresponds to multiple areas, the overlap. Painters have often said that the outline of a painting is derived by an inspection of the thing within nature. No less frequently it is stated that the outline is found within. Linking all of these strategies together it seems as if the painter paints not only what is visible but also the intertwining of the visible with the seeing. Taminiaux then proposes the view that the dimensions of the visible are inseparable from the seeing individual. This goes as far to relate to the echoes that are provoked in our bodies from such encounters are as much our bodies reacting to the gathering of those dimensions and specific sets of information. These echoes are what paintings strive to make noticeable, creating a link between the overlapping, the visible and the seen. Taminiaux goes on to explain that the painting or a picture is therefore not an

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unreal double of reality but it manifests to our gaze the unmistakable schema of the life of things within our bodies. Giacometti, an artist whose work seems to only resemble minutely the common perception states, “What I am interested in when I look at a painting is the resemblance, that is to say what for me is resemblance: what allows me to discover a little bit of the external world.” Purely by his definition he is recognizing a link of overlap, a connection of something beyond the reflection of a reflection. In this state the work of the painter is not about bringing our view upon an unreal double, but what Merleau-Ponty calls the “imaginary texture of the real, creating yet another overlap, one with the real and the imaginary. Using this definition of the painting creates more of a parallel between the work a philosopher and that of a painter. They are no longer part of separate realms but connected through the overlap.

Personal Take

Through the thoughts of modern philosophers such as Plato we are held to believe that there is a complete distinction between the thinker and the painter, hence there are minimal connections between the two at best. After examining this text it seems to muddle this once profound ideal. In both realms there consists overlap, the thought that an individual’s thoughts are formed and are altered due to the others around us. We see this as well in the idea that what is seen and what is visible is not always entirely different yet not completely the same. Painters should be allowed the same grounds of thought when using a painting to enrich and therefore speak about the external world along with creating a vision of what seems to be just a duplicate of a possible perception.

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On the Relevance of Phenomenology by Dalibor Vesely

Transcript revised and edited by Dalibor Vesely and Mark Schneider for publication.

Dalibor Vesely Background

Dalibor Vesely was a Czech-born architectural historian and theorist. Vesely studied engineering, architecture, art history, and philosophy in Prague and Munich, after which he received his PhD from Charles University. Dalibor was influential through his writing and teaching in establishing the role of hermeneutics, the theory and methodology of text and interpretation, and phenomenology as part of the discourse of architecture and of architectural design. Vesely taught some of the current leading architects and architectural historians, including Daniel Libeskind, Alberto Pérez-Gómez, and David Leatherbarrow to name a few. He taught at the University of Essex, the Architectural Association in London and at the University of Cambridge in the Department of Architecture. Most recently, up until Vesely passed away in March of 2015, he taught Architectural History and Philosophy at the University of Pennsylvania, and was an Honorary Professorial Fellow at the Manchester School of Architecture. In 2005 he was the recipient of the CICA Bruno Zevi Book Award granted by the International Committee of Architectural Critics. In 2006 the Royal Institute of British Architects honored Dalibor Vesely with the Annie Spink Award for Excellence in Architectural Education. The primary volume of Vesely's work would fall under the idea of cultural hermeneutics and his exploration of the historical background of modern science and the changing nature of representation.

Relevance of Phenomenology

Phenomenology comes from the Greek word *phainomenon* which means “that which appears” and *logos* which means “study”. Phenomenology is therefore stated as the philosophical study of the structures of experience and consciousness. “A unique and final definition of phenomenology is dangerous and perhaps even paradoxical as it lacks a thematic focus. In fact, it is not a doctrine, nor a philosophical school, but rather a style of thought, a method, an open and ever-renewed experience having different results, and this may disorient anyone wishing to define the meaning of phenomenology”, stated Gabriella Farina, a Professor of Philosophy at the University Roma Tre, Rome. Dalibor Vesely describes the resonance of phenomenology to be directly correlated with architectural studies instead of a topic to be merely glanced at with passing thought. Throughout the seminar held at the University of Houston in 1984, Dalibor Vesely fields questions regarding phenomenology and its' relevance within architecture.

“Why should an Architect study phenomenology? What is its value and relevance for the current architectural reality? One may see it as something which is perhaps too sophisticated, complex, and demanding: but the irony is that phenomenology is a tendency to see things in the way that people use to see them, as designers or painters.” Dalibor goes on to state that

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phenomenology is an attempt for one to understand from the inside and not do dismiss or ridicule from the outside, the whole spectrum of the current experience which we generally call "reality." Reality is subjugated by many differing ideals and opinions while never giving a clear and precise definition. Reality is romanticized as the conjectured state of things as they actually exist, rather than as they appear or might be imagined, included within a concept that reality includes everything that is and has been, whether or not it is comprehensible or has the ability to be proven or observed. Reality therefore differs depending on the population that is viewing or understanding it, as Vesely states, reality of a specific society is actually a reality within than society and nowhere else.

Phenomenology is not a philosophy, as such, but tendency to restore to the modern situation a global and consistent conceptual direction. One that can think of it as an inevitable dimension or hygiene of the modern mind. Dalibor specifically states that the term phenomenology is not what is important or the actual discipline of phenomenology, but what is important is the questions phenomenology raises in the areas of culture where we as individuals work, as architects, that understand our surrounding context in more of a relation of planning methods and regulations combined with the conceptual nature of symbolism, culture, and meaning. Vesely describes this combination or merging of multiple layers of questions as being thrust into a second level of phenomenology. The second level or form of phenomenology pertains to the ground upon which the conflict can be understood. The ground for which the conflict can be understood changes depending on the person and emphasis that you are focused on. The ground state allows individuals within a specific realm or ideology to communicate with ease, the difficulty comes when trying to explain a specific idea to multiple disciplines using the same information. To explain an idea or to communicate between a physicist, a philosopher, and a psychologist one has to consider phenomenology. Can individuals of different realms actually communicate and understand one another? The issue these questions raise is the fact that there is a lack of central reality, an equivalent of polis in the Greek sense. TO each person their central reality differs slightly depending on their experiences and views. So if this is the case and there is no central reality that we can agree on than how can we communicate or even debate with one another. Vesely raises the question, how can Peter Eisenman and James Stirling find common ground for discussion? According to Vesely this is a question of hermeneutics, the latest stage in phenomenology, which involves the problem of agreement in disagreement. Plainly stated that no discussion or debate can take place unless there is already an established amount of agreement, for there is no argument unless there is an understanding and ability to see some possible degree of agreement. One would not engage in a serious argument unless both parties were seriously invested and actually cared about the outcome. If there is no mutual interest than there

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is no reason to care about the outcome, leaving both parties completely indifferent. This is the ideology that Vesely uses in order to link the common ground to the last stage of phenomenology, culture of hermeneutics.

To correlate with the reasoning of phenomenology in architecture Vesely fields a questions regarding the differentiation between reality and Disneyland. Disneyland, as a major feature in American society, shows the ability to create a societal norm that creates a convincing relationship between fact and fiction. Vesely correlates the concept of relationship of the two ideas with what could be the fundamental problem of hermeneutics, there is no absolute reality, no ultimate norm which is authentic. A way to view this concept is by examining if the two opposing concepts can withstand confrontation from a larger entity or a broader reality than just itself. If you challenge the premise with the phenomena in which it pretends to represent it will fail. He then states that this can be considered in the same way when discussing monologue and dialogue situations. As long as an artifact is treated as a monologue in isolation, it can seem equal to any other object or idea in the same realm. It is only when you bring the artifact into dialogue with a reality that is beyond itself that you can clearly see where it fails. The concept of Disneyland creates an illusion that masks the idea of a logic that falls short of the specific reality. Vesely argues that there might me a small portion of this illusion that actually becomes positive, it's the ability of the illusion to extend the possibilities of reality. He goes on to state that there is a point where illusion becomes impossible in European culture because of the development, this is where the contextual horizon is lost. The logic here is that whatever was being represented becomes something in its own, it creates its own surrounding and ground to now occupy. Illusion is no longer but is transformed into delusion, the ground or basis the information occupies is no longer clear or discernable. In this case one is no longer representing the idea but is participating, therefore creating an authentic gesture.

One of the final thoughts of the seminar was to question the ability of science to be what painting is today, an access to being. Art more than any other field is still capable of maintaining a dialogue in what otherwise tends to be the monologue of a hermetic civilization Vesely states. Within reality science and aesthetics belong together but not science and art. Art and science are shown as the most contradictory tendencies in modern society and culture. He goes on to state that in order to get science to become what art is, science would have to be elevated to the level of philosophy. The correlation between aesthetics and science is that aesthetics becomes the science of things perceived or what we classify as what is beautiful. This states that science and technology are ultimately privileged constructions which have not been confronted with cultural reality that is beyond its own reality. These philosophies and concepts begin to solidify why phenomenology is coincidentally correlated to the basic architectural mindset.

Basic research can be performed for almost any task in our digital age in a few clicks of a mouse button. Without thinking about where the information is coming from collected data streams in after a simple search in a prompt line. The hassle with such convenience comes when you are trying to research or gather data on something that hasn't been attempted yet. Geographical information systems are used millions through out the world to help correlate information from household information and demographic statistics all the way to calculating insurance premiums and the benefits of actuarial increases.

The premise of my research study was to identify architectural abilities of the geographical information systems. Data sets about lot sizes and infrastructure are readily available, but when you start trying to acquire information about wind intensities and geothermal indexes of specific areas the trail seems to run ice cold. To put it bluntly associations and publicly run identities haven't seen the benefits of spending fortunes creating input data that correlates the interconnections of land that has already been developed. But take it a step further, our society currently goes on a principle of build for use rather than to build for longevity, meaning most developments or sections of land will be re-developed or re-purposed within our own life time. This being said creating a system that can compute information and their correlations would only lead to increased productivity and efficiencies within certain sectors.

The concept of creating a prototype that inputs geographical, building, and societal information into one place is extremely appealing. By creating more data sets that relate specifically to certain areas of development not only will the architectural field be better off but also engineering, biology, and other related fields of study. The research showed that we can accurately show relationships between multiple sets of information, but it takes a human interaction to actually understand how that correlation can be used beyond the standard means that it was collected.

The data collected shines a faint light on the possibilities but without a larger window to study it is hard to state one way or another if the system can be completely usable or feasible.

Appendix *Accumulated Resources*

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