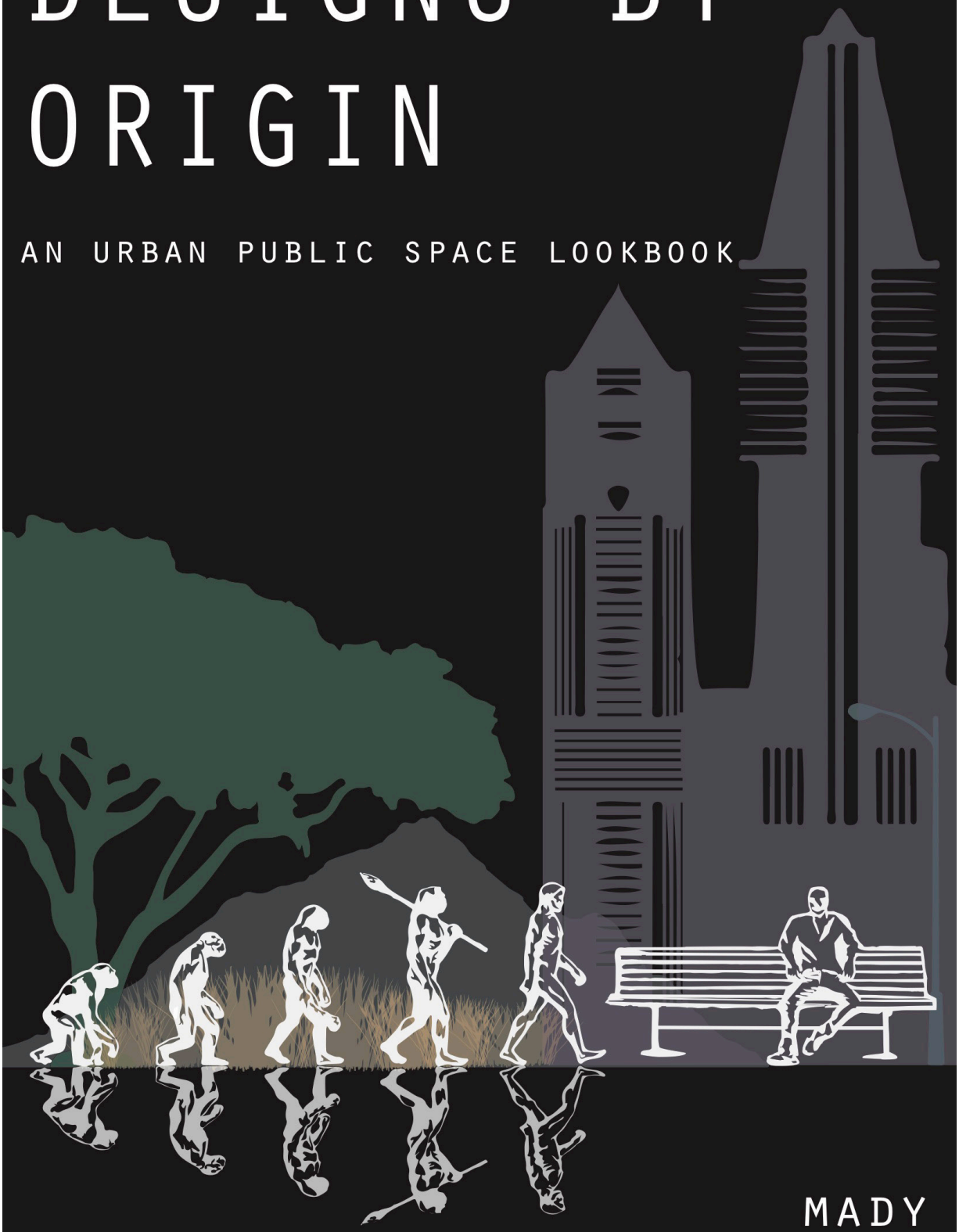
DESIGNS BY ORIGIN

AN URBAN PUBLIC SPACE LOOKBOOK



MADY RICHARDSON

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SENIOR PROJECT FINAL REPORT

DESIGNS BY ORIGIN: AN URBAN PUBLIC SPACE LOOK BOOK

MADY RICHARDSON

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ABSTRACT

Human behavior can be understood through the lense of evolutionary psychology as the product of biological and psychological adaptations to an ancestral environment. This approach serves as my conceptual basis for design as I ask the question, how can we create public spaces best suited to our evolved needs as Homo sapiens? I begin the process by compiling a list of evolutionary theories for a variety of human behaviors. Preliminary designs for public spaces in a range of urban contexts are then sketched, expounded upon using digital design software including Adobe Illustrator, and clarified for inclusion in my final product, the urban design look book: Designs by Origin. Existing public space designs accessed online serve as precedents within the final lookbook and as inspiration during my creative process. Accompanying my final designs are explanations of the evolutionary theories that inspired them as well as visual aids addressing both my creative process and the underlying science. This exploration of evolutionary psychology and urban design in tandem reveals a new method for design and a new lens through which the urban environment can be viewed. Designs by Origin will provide urban designers of all disciplines with an understanding of the dynamic natural process that produced their intended users and a relevant method for using this information to inform public space design.

INTRODUCTION

The look book, *Designs by Origin* is a collection of conceptual recommedations and prototypes for public spaces that will spread applicable findings of the field of evolutionary psychology to a wider audience and especially to spatial designers. This project is a culmination of the combined input of evolutionary psychology and landscape architecture, two field which I have grown passionate about during my time as an undergraduate at the University of Washington. My aim is to make aware to those who eventually digest my work, the implications that our evolutionary history can have on the design of our public spaces, and spatial design in general.

By providing an introduction to evolutionary psychology and some theories which have come from this field, and then converting those ideas into recommendations and visual design examples of public spaces, I will show how urban public spaces have the capacity to align more accurately with our inherent nature.

The final product of my senior project, which is only the beginning of my look book authoring journey, is a portion of my eventual printed look book. This final product in intended to lend insight into my creative process as I convert scientific theory to design, and to display what the look book will look like and the platform in which I've chosen to create it.

Context & Inspiration:

The spaces in which we dwell are simultaneously a reflection of who we are on the inside, and a mold for who we will become on the outside. Public spaces are the ultimate example of space designed by people, for other people. Public spaces are an observational hot bed for human interaction since they're typically used by individuals amongst strangers. This observation of human interaction in public spaces has been championed by sociologists and spatial designers since shortly after the proliferation of our modern cities as they sought to design better spaces. From an evolutionary psychologist stand point, the behavior that is observed in these spaces (and everywhere else) is a product of biological and psychological adaptations to the environments over time. This explanation for behavior can be applied to every living thing on Earth, though for the purposes of my project and its application to the built human environment, humans will be the living beings on which I focus. Evolutionary psychology promotes a comprehensive understanding of human behavior through exploration into the selective forces that have and continue to shape it. The definition of evolution is, "a process of gradual change that takes place over many generations during which species change some of their physical characteristics." Scientifically, the theory of evolution is supported by a vast enough body of facts that it is not likely to be disproven. Therefore, the evolution of human behavior describes the adaptations geno- and phenotypically which have taken place throughout the history of the planet preceding modern human characteristics. I aim to transform these theories about the evolution of specific human characteristics into designs for public space.

Speculations on the necessary components of public space abound in all institutional and theoretical forms. Entire courses at the UW are built around singular theories for specifications for public space, for example; spaces promoting democracy, accessible public spaces, open space, green space, etc. Within the context of such discourse, my project will add to the conversation with recommendations for requirements of good public spaces.

My designs, being conceptual, may not be implemented in a public space in the near future, but serve simultaneously as an example of designing by science and a way to inform people about human evolution.

Through this process I will create unique, educated designs while spreading awareness of what I consider to be the most interesting and important scientific subject, evolution.

I have observed a knowledge gap in the general public about our evolutionary background. Though this topic is scientifically proven, it remains controversial among some religious groups and belief systems within which it does not fit. I aim to spread knowledge about our evolutionary beginnings in a way which is voluntary, exciting, and applicable for readers.

My final product will provide examples to others in the field of spatial design and planning of how adaptations to a historical environment can guide good designs of our modern built environment.

I hope to share my feeling of fascination of the topic of human evolution with a wider audience, providing people with a whole new captivating lens to look at everyday life through. Anyone who comes in contact with my look book will be provided with a general education about evolutionary theory, a useful application of that

LITERATURE REVIEW

I have divided my literature review into sections titled for the three main categories of research which my senior project requires; Evolution, Public Space, and Look Book creation. In the section titled “Evolution”, two books make up the bulk of the sources I’ve cited. These books, Applied Evolutionary Psychology and The Adapted Mind are comprised of individual essays written by experts in the field of evolutionary psychology. In the section titled “Public Space”, the modern understanding of the composition and purpose of public spaces is adapted from a (trusted?) online source, The Project for Public Spaces. The “Look book” section summarizes what I’ve learned about the intention and composition of a look book which I intend to adhere to with some personal flair.

EVOLUTION

I’ve collected evolutionary theories from the source, Applied Evolutionary Psychology by Roberts C. This publication is composed of essays written by evolutionary psychologists on subjects of their professional interest as evolutionary psychology applies. In chapter 1, Roberts quotes the well-known evolutionary psychologist R. Dunbar when he says, “evolutionary theory is a ‘single seamless framework’ capable of spanning disciplinary divides, and it is the only such framework we have.” This quote is the essence of my senior project as I connect evolutionary psychology to landscape architecture and urban planning. Chapter 4 of Applied Evolutionary Psychology by Abraham Buunk and Pieternel Dijkstra discusses the social brain hypothesis. This theory will serve as the basis for one of my public space designs. The theory is summed up in the following quote,

“Group membership was essential to survival and reproduction as it protected against hostile environments. Groups allowed our ancestors to cope with predators, cooperate at tasks, to find a mate, help and support each other with parenting, to share each other’s resources, and to defend oneself against hostile groups.” This theory is further supported by the researcher previously mentioned, R. Dunbar in his paper, Cognitive Constraints on the Structure and Dynamics of Social Networks where he defines the specific size and structure of human social networks. Humans and our primate relatives are highly social animals. As Dunbar has discovered, this characteristic is related to our large brain size since “original tests of the SBH demonstrated that across the primates, average species social group size correlated with relative neocortex size… On the data for apes, the predicted group size for humans is about 150, given the size of the human neocortex.” Distinct numbers of social groupings determined by the social brain hypothesis provide a framework for urban public spaces of “correct” size since larger groups are known to cause “cognitive constraint”. The theory of the social brain hypothesis can be applied to children as is explored in Look who’s talking: Developmental Trends in the Size of Conversational Cliques. Studies of children’s chosen social group size in South Africa and Britain support the social brain hypothesis with significant developmental trends in group size, proving the mental ability of humans to maintain relationships as their brain develops with age.

The importance of well-designed public spaces for children is emphasized in chapter 5 of Evolutionary Psychology titled The Evolved Child: Adapted to Family Life. The authors say that “natural selection has operated as

thoroughly on the phenotypes and genotypes of infants and children, and we describe three such classes of adaptations: deferred, ontogenetic, and facultative, or conditional." Facultative adaptations, which are most relevant for use in my project are defined as "reproductive advantages gained through different evolved developmental paths in different external conditions detected in early life." These adaptations are mechanisms "that detect and respond to specific features of childhood environments – features that have proved reliable over evolutionary time in predicting the nature of the social and physical world into which children will mature – and entrain developmental pathways that reliably matched those features during a species' natural selective history." By facultative adaptation, environments characterizing a person's childhood are key in determining some characteristics which they will express for the rest of their lives. This Evolutionary Development Perspective is the direction of children's development towards adaptive social strategies in response to stressful environments encountered. The Biological Sensitivity to Context theory is described as "Biological reactivity to psychological stressors consists of an elaborated, highly coordinated, but phylogenetically primitive set of neural and peripheral neuroendocrine responses, designed to ready the organism for external challenges and threats to survival. Standard explanations of such responses' role in the pathogenesis of human disorders suggest that prolonged or exaggerated reactivity, such as that seen in highly reactive bio-behavioral phenotypes, exerts deleterious and impairing effects on a broad range of target organs, including structures within the brain, leading to decrements in health, cognition, and functional capacities."

Theory about the importance of Children's Play Styles is explored in an article by A.D. Pellegrini and D.F. Bjorklund titled, The Ontogeny and Phylogeny of Children's Object and Fantasy Play. Fantasy play (taking a stance that is different from reality) and object play (the manipulation of objects) are two different types of play which children have been observed to partake in. "Although play is characterized by its seeming "purposelessness", theorists of both animal and human play concur that it does indeed have a function." These purposes are mixed including some immediate and more obvious functions of exercise and social experience, and another deferred purpose of practicing adult roles. According to Pellegrini and Bjorklund, "Play serves as a way for youth to explore both their physical and social worlds and to modify their neural circuitry in the meantime." Following this theory of children's play styles, a public space will be designed which facilitates and promotes fantasy and object play for boys and girls with understanding of the benefits conferred to those who partake.

Chapter 10 of Applied Evolutionary Psychology written by P. Barclay defines the Indirect Reciprocity Theory. This theory predicts that altruistic behavior is more likely occur when the actor believes he or she will be recognized, and gain a good reputation, for their helpful action. This good reputation leads to positive reinforcement from "the recipient of the help, those who observed it, or from others who hear about it" which makes the prediction that "helping behavior should correlate with the magnitude and certainty of the reputational consequences" This theory paves the way for a method of designing a public space which incentivizes good behavior. High visibility or physical recognition of altruistic behavior triggers

further altruistic behavior in a cycle of positivity. People are more likely to do nice things when they are recognized and/or seen for doing them. A second publication composed of essays written by evolutionary psychologists titled, The Adapted Mind: Evolutionary Psychology and the Generation of Culture is the source for a few more evolutionary theories I will use as the basis for public space design. Chapter 15 of The Adapted Mind, called “Evolved Responses to Landscapes” written by G.H. Orians and J.H. Heerwagen describes the mechanisms by which our species has evolved over time to be more fit in an ancient environment. Adaptations to fit that environment has led to different preferences expressed in modern landscapes. On page 557 of the book, the authors explain that “Our aesthetic reactions to landscape may have derived, in part from an evolved psychology that functioned to help hunter-gatherers make better decisions about when to move, where to settle, and what activities to follow in various localities.” According to this argument, stimuli which humans come into contact with today activate all types of response systems established for survival in ancient environments. Guidelines for the design of public spaces can be drawn from studied environmental responses of these types. The Savannah Hypothesis and Tree quality preference are two theories for the preference of landscape types in accordance with the environments lived in by early humans. Though the authors, Orians and Heerwagen state that “preference is also influenced by experience” the assumption of preference across all human populations is inappropriate; extensive studies on these preferences however do show a strong enough influence of preference to be used as the basis for design in my senior project.

General Evolutionary Hypotheses (for

environmental preference) are outlined in the same chapter. These general landscape qualities which humans are shown to prefer include “moderate degrees of complexity, a sense of coherence, and a semi-open spatial configuration” , and serve as straight-forward design guidelines for urban park design. People are attracted, by adaptation, to environments which are navigable but urge exploration to collect more cognitive data with spatial features which resemble those which would have conferred high quality (opportunity for food, water, shelter, etc.) in an ancient environment. The Environmental Preference Model (EPM) which supports the previous General Evolution Hypotheses is found in chapter 16 of The Adapted Mind. The “intellectual hunter” niche which we fill as a species implies that “ancient hunter gatherers required knowledge about animal behavior in a variety of ways”

The EPM is a 2x2 matrix of two classes of information including the human requirements to “Understand” and “Explore”, and how much processing it takes to draw inferences about the setting represented in “Immediate” and “Inferred” based entirely on a collection of studies to determine human preferences of environment. The EPM is evolutionary support for the importance of familiarity with the environment procured through way-finding and exploration. These theories represent countless variations for designing public space and its potential to have profound effects on human well-being. Chapter 3 of The Adapted Mind by L. Cosmides and J. Tooby addresses human cognitive adaptations. “All of the specific content of the human mind originally derives from the … environment and the social world” and they continue, “the evolved architecture of the mind consists solely or predominantly of a small

number of general-purpose mechanisms that are content-independent, and which sail under the names such as ‘learning’, ‘induction’, ‘intelligence’, ‘imitation’, ‘rationality’ (etc.)” (pg. 164-165). The Kin Selection Theory is an explanation for the altruistic behavior displayed by individuals towards family members. The classic question in biology about why we observe tendencies for helping others in many animal species and how that trait could have been selected for if it decreases the immediate fitness of the individual is partially addressed by this theory. Cosmides and Tooby declare that “A ‘helping design can’ spread through the population … whenever the cost to the organism’s own reproduction is offset by the benefit to the reproduction of its kin-member”. The observation of helpful behavior between individuals does not only exist between those who are related. The Reciprocal Altruism Theory is described by the same authors; “selection may act to create physiological or psychological mechanisms designed to deliver benefits even to nonrelatives, provided that the delivery of such benefits acts to cause reciprocal benefits to be delivered in return.” These theories for the presence of altruistic behavior, which is visible in a grand scale among humans, imply adaptations of the human mind which contribute to the creation of culture influencing our daily interactions and life courses. The Kin Selection Theory and the Reciprocal Altruism theory can both serve as the inspiration for a designed public space.

The application of evolutionary theories to designed urban public spaces is relatively pioneering in both fields. In the following resources, statements of the validity and benefit of such a practice have been found. In chapter

1 of The Adapted Mind, its authors discuss the phenomena of separation between the sciences (including chemistry, biology, etc.) and the social sciences (sociology, anthropology, etc.) which has been supported since the time of the earliest sociologists in defense of culture being independent of natural science. "Remarkably while the rest of the sciences have been weaving themselves together through accelerating discoveries of their mutual relevance, this doctrine of intellectual isolationism. Which has been the reigning view in the social sciences, has only become more extreme with time."
My task of uniting the findings of evolutionary psychology with those of urban design, which I consider to be a social science, is integrative. It is also representative of my view, and many other modern scientists, that the interchangeability of all scientific explanation is the future of knowledge building for our species.

The Integrated Causal Model (ICM) which is proposed on page 24 of the same chapter to replace the Standard Social Science Model will guide my project, and proceeds as follows:

"The ICM connects the social sciences to the rest of science by recognizing that: a) the human mind consists of a set of evolved information-processing mechanisms instantiated in the human nervous system;
b) these mechanisms, and the developmental programs that produce them, are adaptations, produced by natural selection over evolutionary time in ancestral environments;
c) many of these mechanisms are functionally specialized to produce behavior that solves particular adaptive problems, such as mate selection, language acquisition, family relations, and cooperation;
d) to be functionally specialized, many of these

mechanisms must be richly structured in a content-specific way;

e) content-specific information-processing mechanisms generate some of the particular content of human culture, including certain behaviors artifacts, and linguistically transmitted representations;

f) the cultural content generated by these and other mechanisms is then present to be adopted or modified by psychological mechanisms situated in other members of the population;

g) this sets up epidemiological and historical population-level processes; and

h) these processes are located in particular ecological, economic, demographic, and intergroup social contexts or environments."

PUBLIC SPACE

Anthropology of the City, a book printed in 1977 describes the "new subfield" of anthropology called "urban anthropology." The authors continue to propose that urban anthropology did not emerge formally until the 1960s. Prior to that era, anthropological studies had mainly taken the form of observance of primitive peoples and other populations not resembling the lifeways of western European peoples. After the movement of anthropological study into the city, specific urban features, like public space became the specialties for individuals including the likes of Jan Gehl and William H. Whyte. The Project for Public Spaces' (PPS) 2018 article titled What Makes a Successful Place states that after the evaluation of thousands of public spaces worldwide, "to be successful, they generally share the following four qualities: they are accessible; people

are engaged in activities there; the space is comfortable and has a good image; and finally, it is a sociable place: one where people meet each other and take people when that come to visit." The Place Diagram which illustrates these four key attributes, intangibles, and measurements was developed by the PPS as a tool to help judge good and bad design of public spaces. My designs for public spaces will intentionally fill each of these criteria to be judged as "good'. This Place Diagram will be a helpful tool for me during the design process to ensure that my designs are not only filling my own scientific purposes but also general good design purposes. An argument can be made that the four qualities identified by PPS of a good public space are simply derived from innate, adapted requirements from early humans.

A book titled Urban Open Space: Designing for User Needs provides a compelling logic for the importance and utility of public space and its design process which is motivating in the context of my senior project. In the foreword of the publication is stated, "the power of planning and design to connect seemingly unrelated systems and resources lies at the heart of our ability to leave a sustainable imprint on the planet" . This notion is reminiscent of inextricability of the sciences mentioned earlier yet lies in a text not on evolutionary psychology, but "Urban Open Space". This connective spirit lies at the heart of my design process with the intention to produce designs for public spaces which are integrative of science and therefore sustainable for the use of people in the present and future since the product is based on the past which has formed its present users. More justification for my integrative process lies another quote from the forward of Urban Open Space, "High-quality design

has become more difficult to achieve. Forces such as population migration and growth, and rapid urbanization, require landscape planners to assess each situation anew and bring fresh thinking, rather than old formulas, to the design of living landscapes." This source justifies my approach to design as a new formula which addresses human needs and provides designs based on those needs of the ultimate users. The user needs which I address have been adapted throughout human evolution making them less obvious and visible.

Methods for good design were shared during a lecture series course by Terry van Dijk at the University of Groningen. The principle of "loop-breaking" is a method for problem solving requiring designers to 'search for barriers' in the context of their design. Any barriers identified during the loop-breaking process should be considered to provide structure for the project, but typically the designer will find through this process that less barriers exist than originally thought. This process will be vital for my project given its theoretical quality; less barriers exist. Purpose, Intention, and Meaning are objectives that the designer and users will derive from any project. It is important to "mind the gap" as Van Dijk puts it between the purpose and intention of the designer/author (me) and the meaning derived by the audience/users (my readers). The purpose of my project is to provide a new conceptual perspective to the design of public space and disseminate knowledge about evolutionary psychology. My intention is to explore possibilities with a scenario study and to facilitate dialogue through research and the creation of a look book. My purpose and intention should be made clear in the introduction to facilitate an accurate meaning from readers.

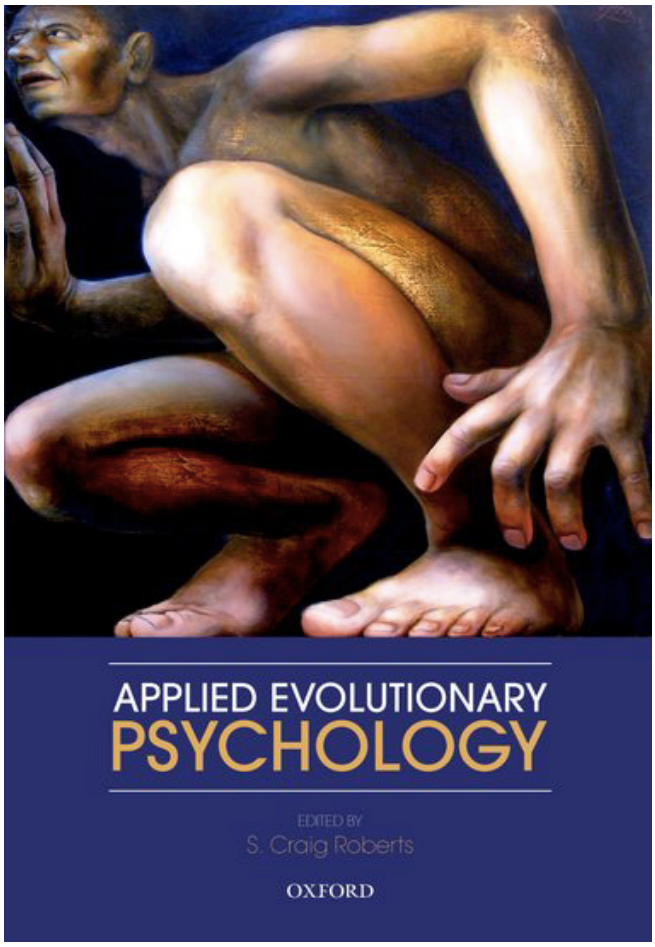
LOOK BOOK

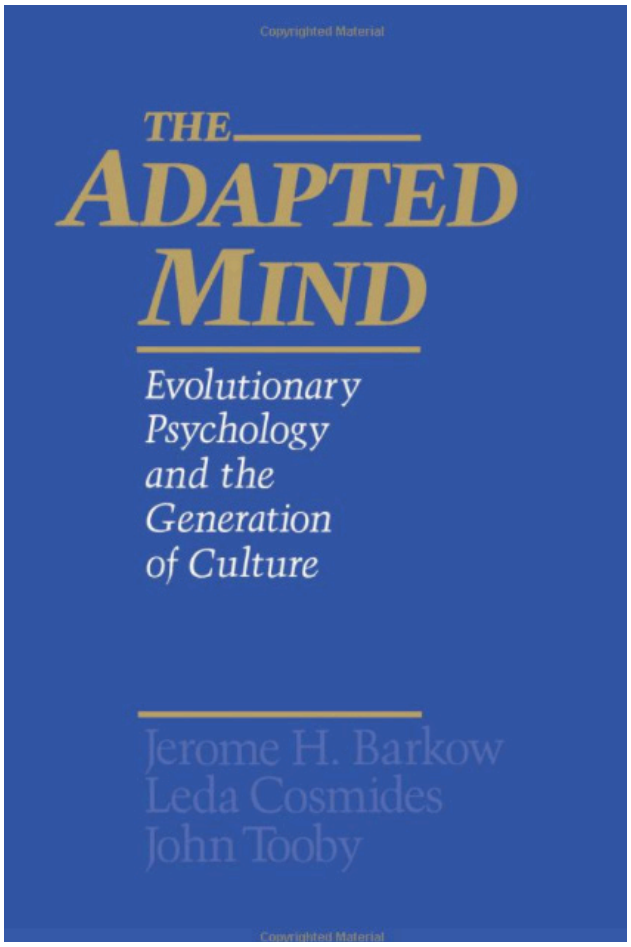
The justification for a Look Book as my mode of presentation is provided by A.J. Gwilliam in his article, A Lesson in Architectural Lookbooks From the Experts at Chapter. In this online article he says that “Design is a long process (the final product) started as an inspiration, which formed into an idea, underwent countless hours of refinement, tweaking and compromise, before finally emerging as a finished product. Yet how can we, as the consumer, really understand that first point of inspiration when presented with nothing but the goods themselves? Well that’s the job of the look book.” The following interview with a brand who has created extraordinary look books over the years helps guide my selection of what pieces to include in my final product. It is important to provide enough context in written and visual form for the consumer to fully grasp the idea behind my design process. I intend to include written explanations of the evolutionary theories that inspired the designs as well as visual aids addressing both my creative process and the science on which it is based.

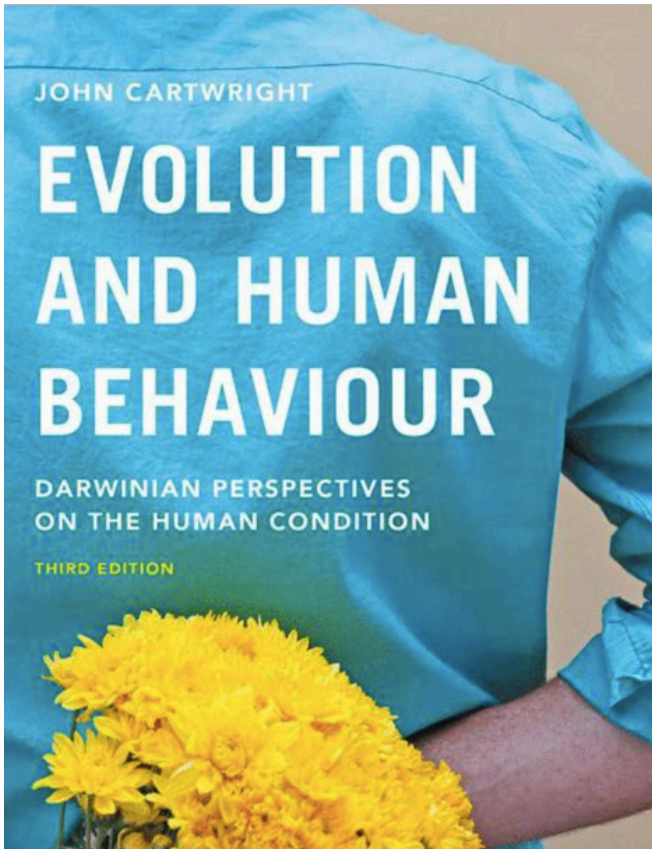
METHODOLOGY

My methodology for the completion of the first few chapters of Designs by Origin can be summed up in three steps; collection of theories of evolutionary psychology, transforming the theories from written to visual, and creating design concepts and recommendations for public space.

[01] During the first research phase of theory collection, I was directed to a few helpful texts from which I gathered most of the theories that I eventually applied in my project. My mentor, Dr. Alex Hill lent me *Applied Evolutionary Psychology* which is a collection of essays on the application of evolutionary psychology to other fields. Form this text I was provided with not only theories of evolutionary psychology to be used in my project, but also examples of how specialists in other fields had already applied those theories to their own line of work. *The Adapted Mind* is another textual compilation of essays which I uncovered and rented from the UW library. From this book, which features mainly writing by evolutionary psychologists, I gathered more theories to be applied to spatial design. A textbook which I already owned titled Evolution and Human Behavior supplied me with guidance on the scientific context of the theories which I had discovered and a reference for understanding some more complex theories. I initially collected 20 different theories which could - with more or less effort, be applied to the built environment. This list was further reduced to 10 after considering the realistic ease of application and reader comprehension, and then to 7 for inclusion in my final look book based on how they could be organized into chapters. From this 7, I chose 3 to move forward with for the first installation of my look book which serves at my final product for the purposes of this assignment.





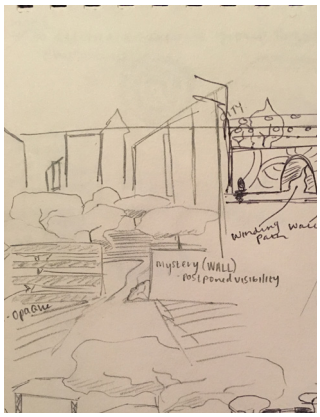


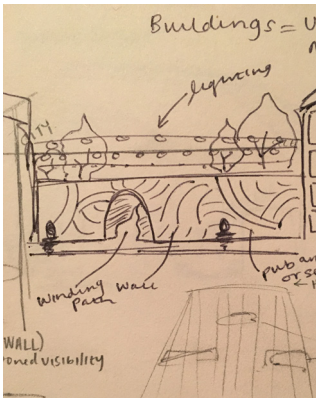
Upper Left: *Applied Evolutionary Psychology.* From this book i selected, The Social Brain Hypothesis, Indirect Reciprocity Theory, and the Integrated Causal Model

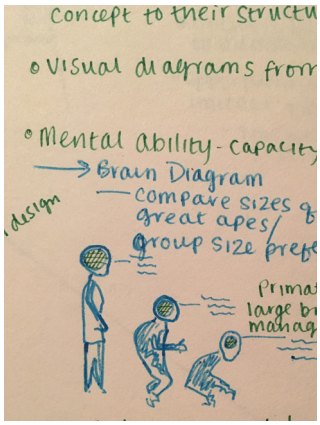
Upper Right: *The Adapted Mind.* From this book I selected The Savanna Hypothesis, Tree QUality Preference, The Environmental Preference Model, Kin Selection Theory, Reciprocal Altruism Theory

Left: *Evolution and Human Behavior.*

[02] The second phase of my methodology was the transformation of written scientific theory to physical (in 2D visual format) application to a public space. This phase consisted of more research into design precedents of real life public spaces. Finding precedents for public spaces aided in the application of the theories into concepts that already exist- because they were guided by our evolved behavior and learning patterns. Many of my visual designs are existing spatial concepts that have been modified to better fit our needs determined by evolutionary theory. During this phase, I sketched on paper many design variations for public spaces including the layout of a park, seating and shelter for an outdoor plaza, children's play and learning equipment, etc. By focusing on one theory at a time and (subjectively) exhausting the options for its inclusion into a 3D public space at all scales, I worked my way through all 7 theories. The time commitment to this creative design process lead me to zone in on just a few of the eventual total

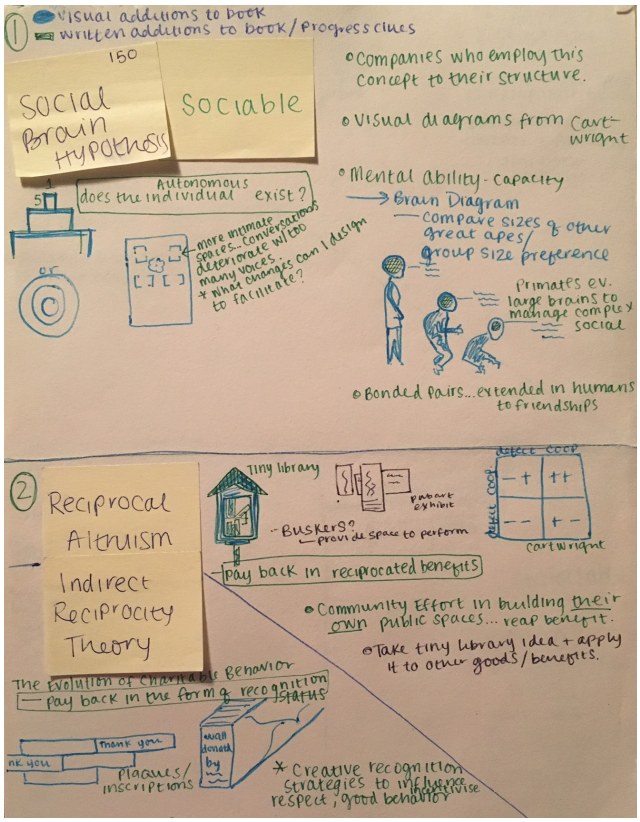


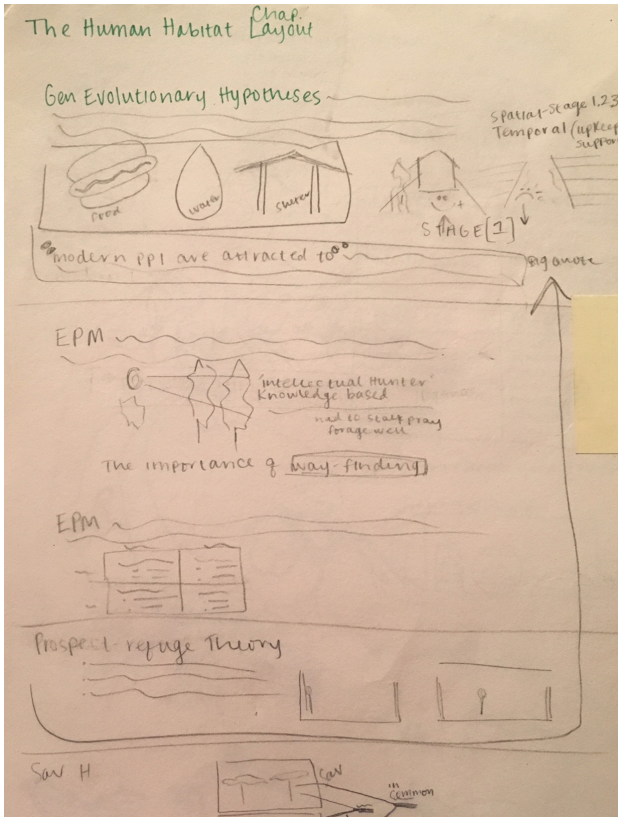




Above: Some examples of sketches I made during the second phase of my methodology. My thought process relied heavily on having a pad of paper and a pen nearby to quickly scribble down my ideas.

[03] The third phase of my project involved the transferring of those written and hand drawn designs to a clean, digital format and into my look book template. Through this final process, many of the concepts which I had creatively articulated on paper were in need of reimagining and captioning in order to coherently convey the idea to a reader. I used a combination of Adobe programs, Illustrator, InDesign, and Photoshop to digitally render my design concepts and create a layout for my look book.

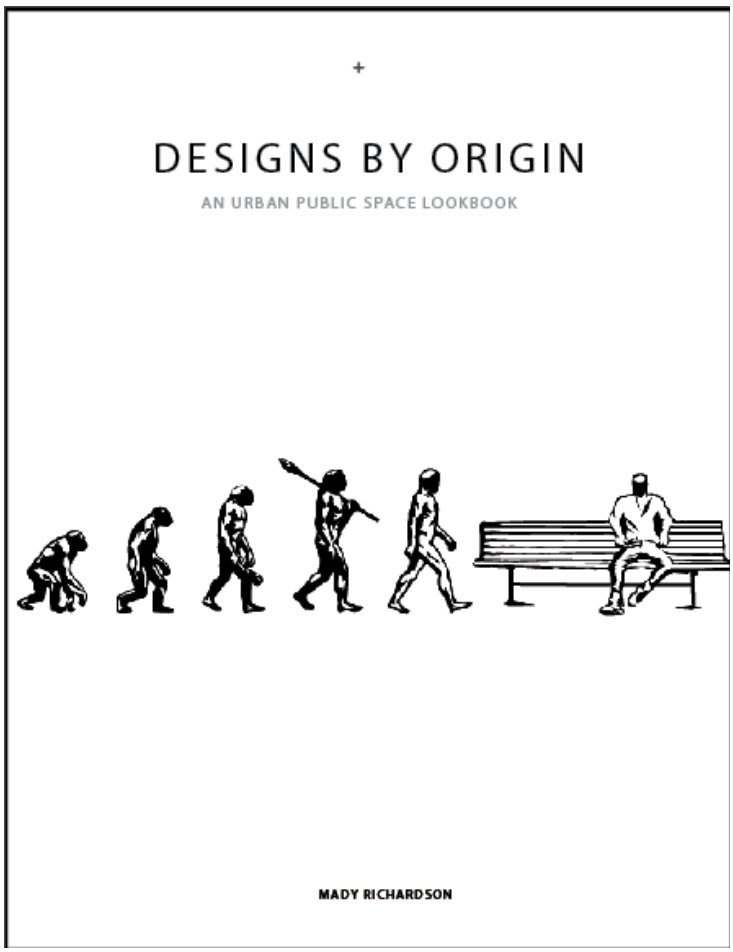




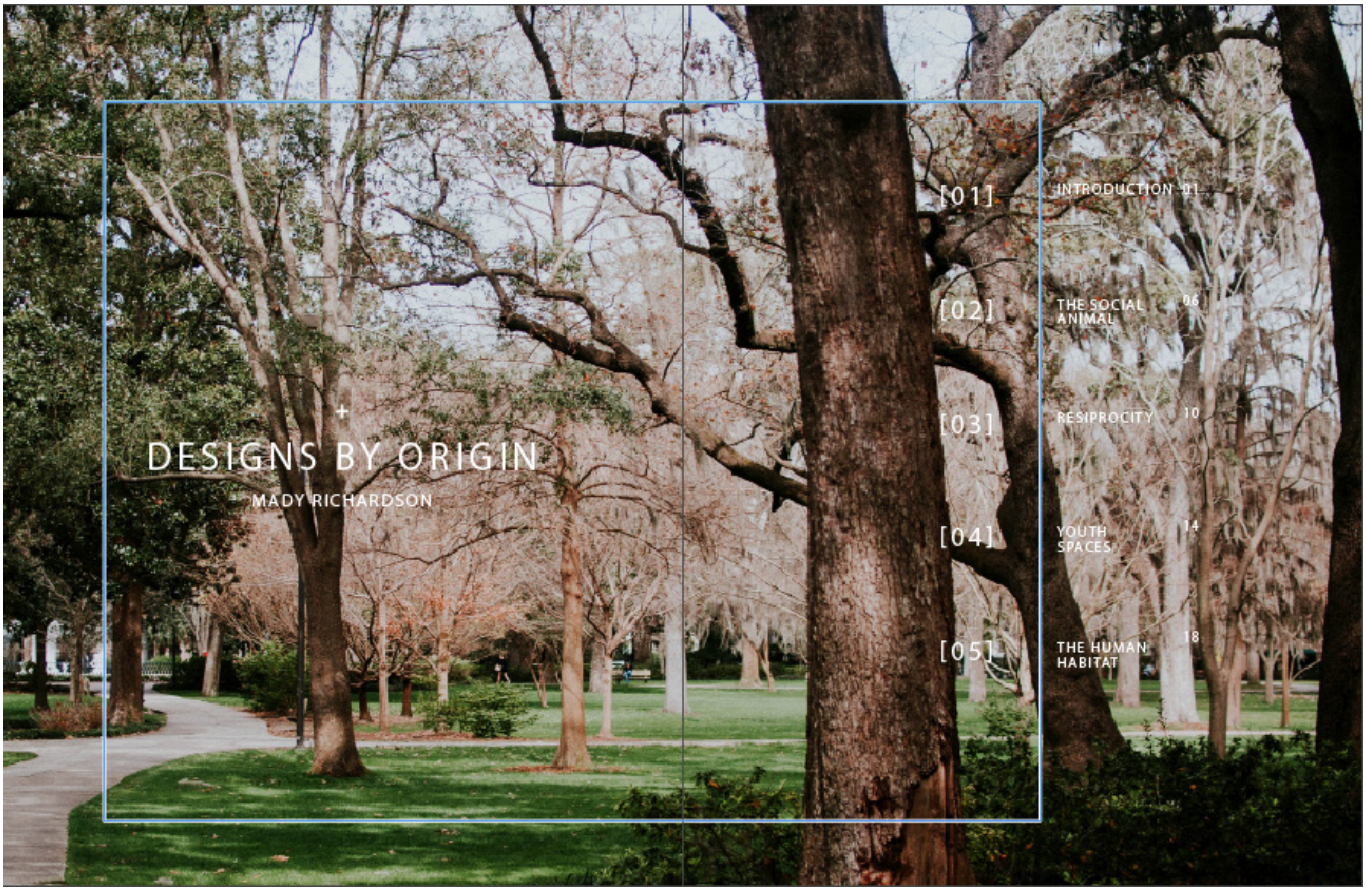
Upper Right: Attempts to break up my final list of collected evolutionary theories into chapters for my look book.

Lower Right: A preliminary layout for a chapter of the look book.

THE LOOK BOOK



Designs by Origin has a clean, and easy-to-follow layout, guided by large photos and visuals made by myself including my take on *The Evolution of Man* on the cover. Here the pages are placed in order straight from my living document on InDesign.



THANK YOU.

This volume is created with the intention to make aware to those who digest it of the implications to design of our public spaces of our evolutionary history, and to suggest by providing examples some designs for public space which would align more accurately with our inherent nature. My passion for our deep history of adaptations or "survival of the fittest" has inspired me to create a volume to spread applicable findings of the field of evolutionary psychology to a wider audience and especially to those proponents of my other passion, spatial design.

The title of this book is ironic given that you, yes you, are a design by origin. "Natural selection is a feedback process that is driven by the differential reproduction of alternative designs" (The Adapted Mind, 167). You are a novel design for a human. You have the great advantage of seeing the letters on this page with your eyeballs or hearing the spoken words with your ears. These natural born skills make you more fit than someone who was born without the ability. Modern society blurs these lines of fitness for the benefit of humanity, but in the natural sense you are more fit. At the origin of sight, one individual who was born with the random ability to make-out visions of shapes was more able to avoid the shapes of predators, survive, and reproduce than others without this rudimentary ability. More of that individuals offspring will be, this ability will become more common in the population- it will be selected for. Over many generations, this beneficial design change will spread throughout the population. Random born abilities which hinder reproduction will be selected against. These processes over time lead to the adaptations of evolved beings on Earth. (The Adapted Mind, 167)

EVOLUTION AND THE BUILT ENVIRONMENT

AN INTRODUCTION.

The spaces in which we dwell are simultaneously a reflection of who we are on the inside, and a mold for who we will be on the outside (find better explanation?). Public spaces are the ultimate example of space designed by people, for other people. Public spaces are an observational hot bed for human interaction... evolutionary psychology promotes a comprehensive understanding of human behavior through the exploration into the selective forces that have and continue to shape it.

You are not the first of your kind, springing like a miracle from nothingness, but rather one of the most recent genetic renditions of your species. It must be claimed that almost every single attribute of you besides the occasional mutation (get checked by Alex) could be explained by evolution. This may be a possibility for future scientists to follow-up on. This volume however has chosen the theories for a smaller subset of attributal explanations on which to build.

On the human mind, we know that the human mind is the result of an evolutionary process consisting of countless adaptations that has taken place over millions of years. These, and all adaptations are guided by nothing other than the environmental conditions encountered by the individuals of the species and in our case, our socially grouping, hunter-gatherer ancestors.

using insight derived by work in evolutionary psychology to inform public space design. The result is public spaces which ease our Homo sapien souls into this novel modern environment.

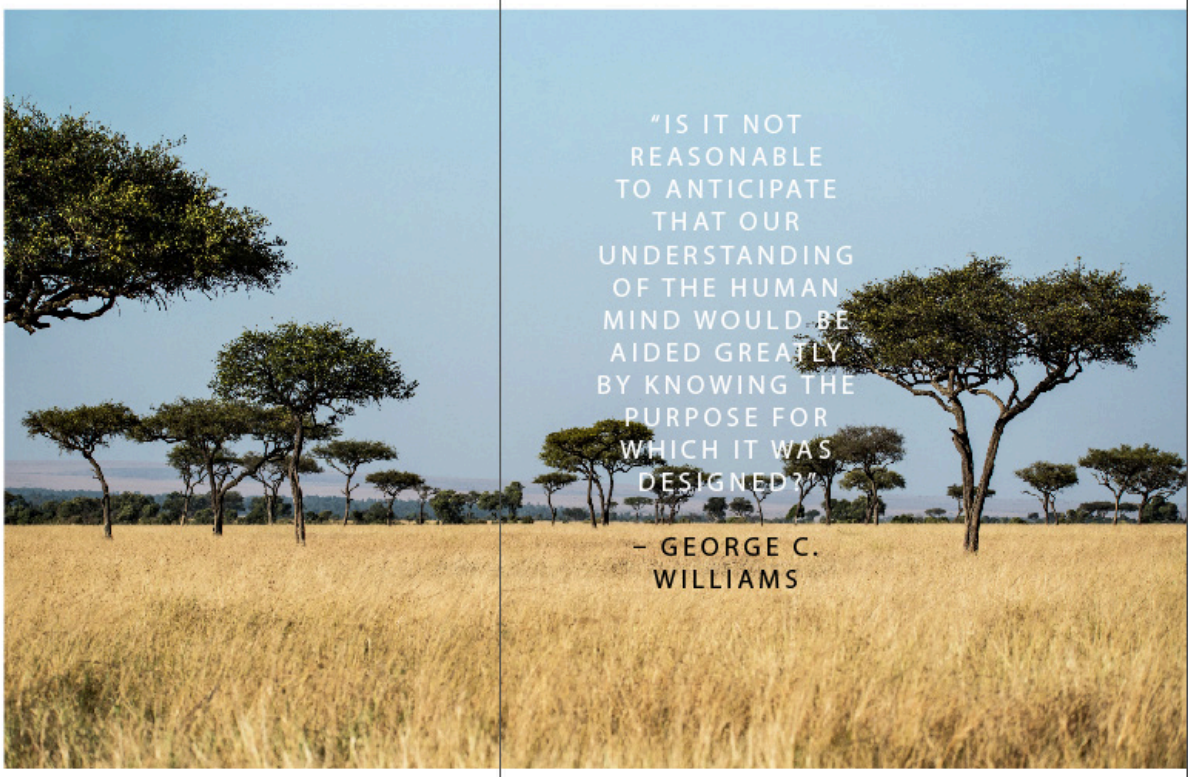
This method can be replicated for any type of space, as theoretical work in the field of evolutionary psychology has already been applied to fields ranging from medicine, to economy, to business management in books by Beckstrom (1993), Crawford and Krebs (1997), (add other, older resourceful book) Roberts (2012), and others. The book Applied Evolutionary Psychology, lent to me for the research of this project by my mentor, Dr. Prof. Alex Hill especially has served as a guiding and pivotal thought-provoking text during the composition of this book. In he basis for my design of public space is

The evolutionary framework is a shape upon which can be hung the "best practices" of all fields of or pertaining to human behavior.

This attempt to create public spaces which best suit our evolved adaptations is not what is known as a naturalistic fallacy, which is the assertion that the way that things are by nature is the way that things should be. Because the behaviors which I will discuss in this book are adapted by nature does not necessarily mean they are right morally. The following is an exploration into the way that an understanding of the environment to which we have adapted over time simply aims to create spaces for pure humanity to unfold without obstacle. By infusing into our modern cities the demystifying theories of the evolutionary framework, light will be shed onto a new standard for "best practice", and onto the innate way we connect with our surroundings. ... environments to which we've adapted, perhaps good things will come...

My intention is to provide visual explanation

"evolutionary theory is a 'single



"Imagine you are on a camping trip that lasts a lifetime...

You wake up one morning with an empty stomach and an empty cupboard. It is time to move on. Clouds on the horizon indicate that it has rained for many days in that area, and this is where you will head to look for food. Although the raint place is many days off. it will be lush and green with berries, vegetables, and fresh water. The animals will come to feed so hunting will be good.

The small band of adults and children gradually begins the long hike actoss new terrain. By midday the sun is high and hot. In the distance on a ridge crest is a cluster of big trees - they look cool and inviting, but are still several hours off. As the group continues on its hike toward the trees, one of the men spots fresh lion tracks. He stops abruptly, gestures for the group to be quiet as he climbs a rock outcropping fora better view of what's ahead. The lions are only a short distance off, almost hidden from view in the grass. The man watches the lions for hints of their future intentions. Are they hungry? Will they attack? His vast store of animal information tells him not to worry. They have just had a large meal and are resting.

By the time the group reaches the cluster of trees, the sun is low in the sky signaling an end to the unbearable heat of the day. The adults rest momentarily, knowing that soon it will be cooler. They begin setting up camp and preparing the evening meal. The rumble of thunder off in the distance is a welcomed sound. The dry season is coming to an end. Around the campfire that night, the adults break up into small groups. Several women make preparations for the next day's foraging. They discuss the route they would take, recalling where they found the best berries, fruits, and leafy greens last year. On the walk today, one woman remembered seeing Grewia flowers - there may be bushes with ripe berries nearby. Another woman talks about the large nut tree that was so productive lasy year. The men garhte in small clusters to make arrowns, all the while talking about the animal tracks they had seen. They plan tomorrow's hunt. It's a ungamiliar tarrain, so they need to decide which direction looks most promising. Gradually everyone drifts off to sleep. Shortly before dawn, several of the adults awaken to a loud crashing sound in the bush. The sound recedes, and they fall back asleep. Soon all of the campers awake and begin a new day in a life-style that will last for thousands of generations."

- Exerpt from The Adapted Mind, Chapter 15 page 556 by G.H. Orians and J.H. heerwagen

THE HUMAN HABITAT.

FOLLOW THE BONES.

[01] The General Evolutionary Hypothesis

[02] The Environmental Preference Matrix

[03] Prospect Refuge Theory

[04] The Savanna Hypothesis

DESIGNS BY ORIGIN

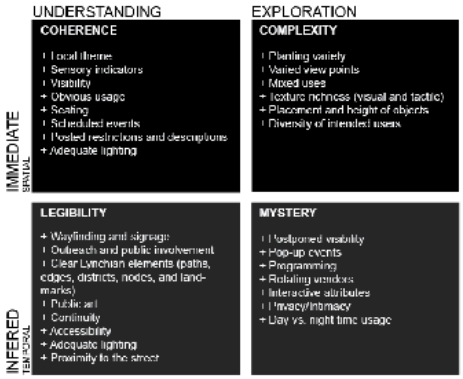
THE ENVIRONMENTAL PREFERENCE MATRIX

The Environmental Preference Model (EPM) is a tool with which we may assess varying preferential components of a landscape from a General Evolutionary perspective. This model is built on the foundation of humans as "intellectual hunters", a term coined by (R.P. Peters, L.D. Mech, Behavioral and cultural adaptation to the hunting of large animals in selected mammalian predators. Antecedents of Man and After. 1975) implying that ancient hunter-gatherers used knowledge, postulation, and strategy about animal behavior and the environment in a variety of ways for subsistence. Considerably priority was placed on wayfinding for our nomadic early human ancestors. The urge for exploration and memory provided for better chances of survival and success in foraging and hunting during excursions. Constant assessment of the quality and risk of the landscape was the reality for all living species until our relatively recent, modern settlement pattern and culture reduced the need for endless, hasty scenic evaluation. From this inference of early human activity and 30+ studies involving human participants responding to a variety of scenic representations was formed the EPM.

The 2x2 environmental preference matrix consists of two classes of information including the human requirements to "Understand" and "Explore", and how much processing it takes to draw inferences about the setting represented by "Immediate" and "Inferred". Potential immediate predictors of preference are "Coherence", and "Complexity", and inferred predictors are "Legibility", and "Mystery". This model for environmental preference should be accompanied by the identified primary landscape qualities which have an even more predictable effect on preference; "Nature", or water and foliage. Studies completed by psychologists including T.R. Herzog,…., and theories including the biophilia … prove a dramatic preference for environments where natural elements are visible. Within his text A Cognitive Analysis of Preference for Urban Nature, Herzog even states that urban settings with natural components are preferred . This sounds like the exact type of setting we wish to create.

The original environmental preference model by Kaplan and Kaplan.

When asked about their environmental preferences, it has been noted by Kaplan and Kaplan, that most participants were unable to rationalize their choices during the study. This infers an unconscious and innate preference for some environmental attributes.

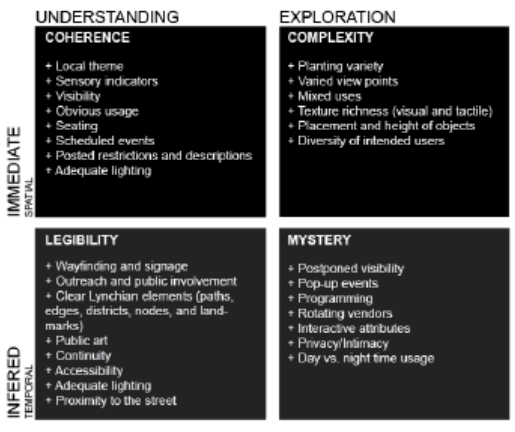


The environmental preference model with applications to public space.

This list is not exhaustive but has taken into consideration various different types of public space attributes.

DESIGNS BY ORIGIN

THE ENVIRONMENTAL PREFERENCE MATRIX: APPLIED



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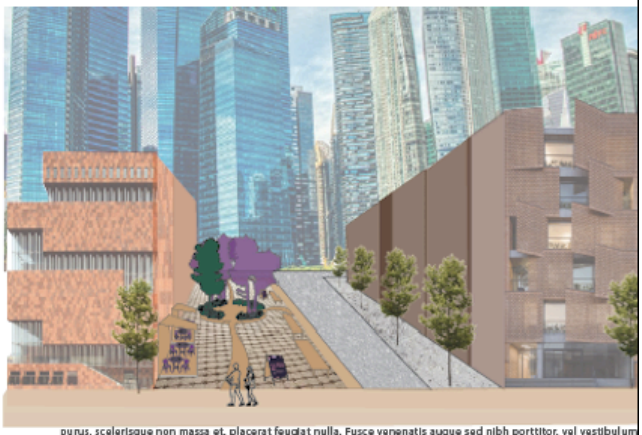

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REFLECTION

I always knew that I wanted my senior project to be on a topic that interested me to my core. In the same fashion which I have lived out my college career, I wanted to love what I was doing, never find it to be a waste of time, and thoroughly enjoy myself while completing “homework”. I thought that the best way to acheieve this goal during my senior project was to be in charge of the subject 100%, essentially starting from an existing point of interest and working from there into a concept for a project rather than finding a space which needed to be filled and then filling it with my work. In many ways, the later route would have made my job alot simpler and less time consuming, but I believe that it wouldn’t be as rewarding along the way. It was through this thought process that I created my senior project, Designs by Origin.

This project has been utterly fascinating through and through because I’ve been able to research farther into subjects that I am passionate about, evolutionary psychology, landscape architecture, and graphic design. Because this project is essentially my brain-child, and there isn’t alot of precedent for it, there was alot of learning and restructuring that happened along the way. I learned that general prescriptions for the improvement of design are not beneficial. Every space exists within its own cultural context, and many theories of evoluitonary psychology tend to generalize the attributes of members of our species. Along those lines, learned that to simply apply scientific theory to design is not enough for me. I did intended to illustrate how this application could happen, and make for better spaces, but in some cases the application simply did not make space better, just different. In these cases I decided not to move forward with that theory for inclusion in my look book. This connection of evolutionary psychology and design can be enlightening and extremely useful for a variety of reasons, but reimagining for the sake of reimagining is not always forward-thinking.

WHAT'S NEXT

I will continue my work on the look book until its final completion which will be printed and potentially sold to those who are interested through my website. I got alot of feedback after my presentation at senior project night from people who are interested in purchasing my book. Because this project is built on the foundation of my passion and facination with the subjects rather than obligation I know I will remain motivated to continue it.

In the future I hope to bring my design concepts to life in a gallery space to highlight the potential for connecting evolutionary psychology and design.

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