

# TRAVERSING AMBIGUITIES

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rebuilding perspectives through designed visual education

Mudita Pasari | MA Art + Design Education '17

**TRAVERSING AMBIGUITIES**

rebuilding perspectives through designed visual education

A Thesis

Presented in Partial Fulfillment of the Requirements for  
The Degree Master of Arts (MA) Art + Design Education

in the

Department of Teaching + Learning in Art + Design

of the

Rhode Island School of Design

by

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Rhode Island School of Design | 2017

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*dedicated to everlasting childlike awe and perception*

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## ACKNOWLEDGMENTS

To all those who have been my educators, over the years- inside and outside of studios and classrooms. If not for their resonating efforts, I couldn't have possibly been here.

I would like to express my gratitude to Dr. Paul Sproll and Professor Nancy Friese, for granting me the opportunity to be a part of this incredible program and for offering their constant encouragement, without which this task would not have been possible.

To Professor Jan Baker, for opening her heart and home. Professor Ijlal Muzaffar, for challenging my thoughts, all along the way. Professor Jennifer Liese, for being the role model of constant energy and diligence. Professor Judy Sue Sturges, for granting me a beautiful inlet into the world of children's books and objects. Professor April Jones, for teaching me so much about writing, and always being there, no matter the time and day. Professor Thomas McKeuff, for opening a new world of thought and always finding time.

To the 17 amazing classmates in my MA Cohort; they have been a rock of support- as sounding boards, critiques, collaborators and friends. They made this happen. To Barbara Andrade and Susan McGuire, what would we have done without them. And also to every person I have encountered, over the year, for they have moved me with their generosity.

Finally, but most importantly, an extraordinary array of family and friends sitting halfway across the globe, always available for discussions, rants, feedback sessions and more. I couldn't possibly name all of them here; they know who they are. I am grateful and humbled to know that all of them are always ready to invest in me and my endeavors.

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## ABSTRACT

We perceive the world largely through categorizations and associations. We distill people, objects and entities into extremes. 'Normal' becomes a measure of acceptable. Reductionist definitions, force anything ambiguous or uncertain to be rejected. Acknowledging our biases towards these misinterpreted, shunned or ignored entities, has long been overdue. In today's world we cannot possibly continue being blind to complexity.

Can designed visual education reinterpret ambiguity and embrace multiplicity? How can a designer's perspective help scaffold these educational systems? Can we do so by looking deep within our own practice as designers, artists, scholars and educators?

The thesis explores these various questions through the perspective of a designer and scholar. By delving into historic and current examples of association, the ideas of interpretation and representation are discussed through the analogy of a unique creature, the pangolin. These learnings are then applied to examples of designed visual education.

The thesis advocates the use of visual narratives to help preserve or rekindle a childlike worldview of acceptance and inclusion. Designed visual education helps us move beyond knowing and encourages emotional investment, building deep-rooted resilience.

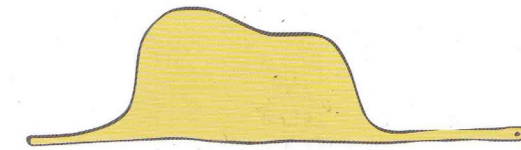
Design interventions, in any form are a systemic process of responsible creation, iteration and adaptation. If paired with appropriate mediums of dissemination, we could nurture the future generations to be strategic thinkers, hopefully bringing about longterm impact.

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## PROLOGUE

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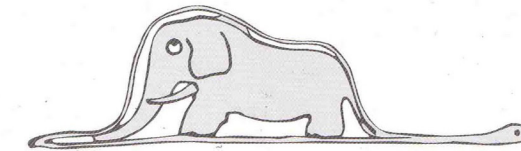
Antoine de Saint-Exupéry(1943/2015) starts his book *Le Petit Prince* by describing a drawing the narrator of the book used to make as a child.



*Mon dessin ne représentait pas un chapeau. Il représentait  
un serpent boa qui digérait un éléphant*

*Figure 1. Antoine de Saint-Exupéry (1943/2015), Le Petite Prince*

One way of translating the phrase from his book would be:  
“My drawing does not represent a hat. It represents  
a boa constrictor digesting an elephant” (p.8).



*Figure 2. Antoine de Saint-Exupéry (1943/2015), Le Petite Prince*

I believe him, and so would many others who are willing to see beyond the obvious modes of association. "Grownups never understand anything by themselves" he says "and it is tiresome for children to be always and forever explaining things to them" (p.9).

Growing up we are bombarded with classifications of objects, creatures and people. We are told to look at things in categories and measurements. We eventually develop associations which we start viewing as objective and irrefutable facts. There is something about childlike perception and the lack of immediate association that makes our world more beautiful and less absolute.

In a book questioning all of these things and much more, Antoine de Saint-Exupéry (1943/2015) has said something which immediately resonated with me:

Grown-ups love figures... When you tell them you've made a new friend they never ask you any questions about essential matters. They never say to you "What does his voice sound like? What games does he love best? Does he collect butterflies?" Instead they demand "How old is he? How much does he weigh? How much money does his father make?" Only from these figures do they think they have learned anything about him. (p.18)

I am a grown-up too, at least one pretending to be. I am hoping to remember the feeling of asking "questions about essential matters"(p.18) and not weighing everything in terms learnt over the years of growing up. Because if growing up means forgetting honest ways of looking at the world- then maybe growing up is not what we need to be doing.

My research is looking at ways of seeing the world not in dichotomous definitions but experiencing ambiguous existence with the intention of embracing it. Things are neither all good nor bad, beautiful nor ugly, dark nor light- things can be experienced in a nebulous spectrum of perception and acceptance.

Children have a unique ability to embrace ambiguity and growing up should not beat it out of them. As an individual educated to be a designer, I can say that visual education played a very important role in preserving and rekindling the ability to absorb the ambiguous world around me.

I always look at the design world as Alice's wonderland- discovered by pure chance. Not unlike the delicately hand illustrated inhabitants of "wonderland" we designers encounter

unfamiliar things. We should be ready to accept them in all their ambiguous glory instead of only viewing them through the reductionists point of view of categorization or association. (Lewis Carroll, 1865)

Not many people know that Lewis Carroll, writer, photographer and illustrator, is the pen name for Charles Lutwidge Dodgson, educator, logician and mathematician. He is known to have worked with various mathematical applications, ranging from algebraic geometry to electoral reform. He used puzzles and logic to understand a problem, but often used unorthodox storytelling techniques to convey his ideas to his audience.

Charles Lutwidge Dodgson(1879) wrote *Euclid and his Modern Rivals*, to defend the use of Euclidian elements as an effective method to teach geometry. The interesting thing about this book is that it was written as a play, allowing the spiritual apparition of Euclid to speak for itself to his modern counterparts (O'Connor & Robertson, 2002, para. 14).

A logician and mathematician who wrote and illustrated *Alice's Adventures in Wonderland*, and also chose to teach geometry through bizarre and unexpected narratives. Could we describe someone as Charles Lutwidge Dodgson/ Lewis Carroll as one person or the other? Ambiguity exists all around us, we simply have to embrace it.

Currently, we live in a world which strives on measurements, usually relative to a predefined 'normal' / 'acceptable'. Our narratives over the years, have been written with a perspective of things being either extremely good or bad. Even our mythologies aim to instill piety through extreme reward or punishment; our current news is either about the worst or the best of things. We, as a people, seem to be thriving on a system of extremes. We start to classify things in comparison to these extremes, because the goal is to be either one or the other. We seem to forget the childlike innocence of seeing the world as is, of not categorizing things immediately as we see them, of not attaching associations on the very onset- or maybe none at all.

I do not claim that any of us are capable of seeing the world without any associations. Maybe some people feel they can do so; speaking for myself, I know, try as much, I couldn't.

I am conditioned to see things in a particular way- a conditioning I can never shake away.

Instead, I claim that we could make a difference, if we were a bit more aware of our conditioning and started to accept our very own colored tint, of viewing the world. Only if we would, once in a while, remember the way we saw the world before understanding these classifications; probably then, we could create a better existence.

Again, to take aid from Antoine de Saint-Exupéry(1943/2015), “All grown-ups were once children (but most of them have forgotten)”(p.7).

My research aims to explore ways of remembering and reconstructing a time when it was okay for things to be ambiguous. It didn't matter if the animal was a mammal or a reptile, a herbivore or a carnivore, precious or expendable, but just was.



*Figure 3. (a little known) disappearing curious creature; digital artwork*

CHAPTER 1 | Probing Within

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## INTRODUCTION

*I sit waiting for a sound.  
Even if it were the wind.  
For the fear to up and disappear.  
Without me doing a thing.  
For the shards to quiver.  
And attract each other again.  
Who has time for some glue.  
If you can cover it up with paint.*

Professionally I am trained to be a Communication and Spatial Designer. But I soon discovered that I identified myself primarily as a Narrative Designer- be it in words, without words, through stories or broken tales; articulated well and not so well. This book is a narrative of my journey and relationship with ambiguous beings- all those entities misrepresented, rejected or devoured because they did not fit our built boxes of means and extremes.

My work is currently exploring narratives, leading to the introduction of dualities, averages, reductive differences, information boundaries, classifications, associations and perceptions.

## Definitions in Twos

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I have often been privy to friction and found myself wondering about the relationship of dualities and differences in our definition of 'self' in relation to the 'world'.

Phenomenologists have been studying the idea of objects and their existence, defined as the conceptual basis for intersubjectivity. As countless greats have approached the subject from various perspectives, I chose to do so in my small and humble way.

The dualities which I have been grappling with can be defined as:

1. Humans and Nature
2. Humans and Other Humans

Often in my work I try to understand the seemingly fabricated nature of most dichotomous extremes in our everyday life. Understanding these relationships defined by difference helps one address them more appropriately and with sensitivity. But as I dug deeper I saw emerging patterns, which are so embedded in our existence that we fail to recognize or acknowledge them, let alone construct alternatives for.

Let us look at Sir Thomas More's (1516/1994) book and term *Utopia*, as an example, which translated from Greek means 'no-place'. This oxymoron can help appreciate, that in spite of knowing the limitations of imagining an ideal, the construction of the imagination is the most important part of any social practice. Narratives and stories have always been the driving force for our species. Either good or bad, is not my place to judge, I only intend to explore the possible influences which could have lead to our current understanding, dependent on categorization.

This perceived and projected relationship between entities interests me. Exclusion of people, entities and/or objects from social systems, on the basis of classification, association and often ignorance, keeps coming up in my work.

We sometimes tend to believe that what we do not see, does not exist or is not worth thinking about. But often those are the things worth noticing and discussing. Underrepresentation or misrepresentation leads to warped cultural knowledge or lack thereof. In many cases narratives being told and retold could have lead to present cultural/ social/ environmental situations. I want to explore counter narratives for these situations as effective sites for discourse.

I identify as having lived with/in-between multiple dualities throughout my life. Now, I am starting to find a space which exists simultaneously in-between and outside of two opposite poles.

*A simultaneous existence  
of creation and erasure.  
A constant loop  
of forgetting to say it is okay.  
For it never was and never will be.  
For writing and rewriting history  
just to feel safe.  
I see myself in patterns  
of building and rebuilding  
of forced forgetfulness  
of asking too much.  
For memory becomes a vice.  
For memory cannot be a constant  
if memory was built to burn.*

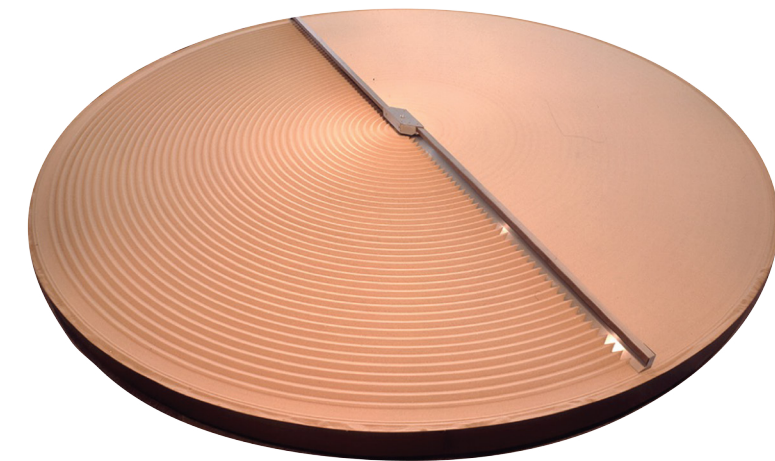
I include the above writing here, because it describes my relationship with dichotomous extremes better than any number of paragraphs. It was written, during a session with Professor Barrett at RISD, as a response to *+ and -*, a circular piece in constant motion (Figure 4), by the Lebanese artist Mona Hatoum (1994-2004).

A lot of my studio practice revolves around creating a conversation between dichotomies, some in more subtle ways than others. I have been toying with various modes of thinking about this apparent binary categorization, which seems to replace a spectrum or gradient.

I wonder can narratives and conversations help create a space to address these extremes? Do categories exist because of each other or because of the comfortable space between/around them? I have been exploring these ideas in various forms and conversations.

Sometimes it is about exclusion and inclusion.  
On other occasions about needs and wants.  
Thoughts and instincts.  
Rest and work.  
Me and the world, the world and me.  
Humans and nature.  
Humans and other humans.  
Similarities and differences.  
Stagnancy and iterations.

Whatever form I choose to represent them in, the roots of each of these themes goes back to a singular interest in my work- addressing social-cultural-environmental concerns I see around me. It is the unjust nature of the social structures which make me uncomfortable, at times sad and at other times angry. I wish to contribute as a designer, educator and intervenor. I want to work with children and adults alike; to help imagine new possibilities and identify tools for rediscovering their context. For then they would be capable of making choices for themselves instead of being asked to conform to prescribed notions of classifications and associations.



*Figure 4. + and -, Mona Hatoum (1994 - 2004); sandpit and mechanical arm*

## Classification and Misinterpretation

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The discomfort with defining entities in relation to two extremes encourages me to drive the conversation about classifications into possibilities of embracing ambiguity. I envision a world where it is okay to not understand and still co-exist in harmony. This could be developed through small building blocks, considered insignificant by themselves, but together can have a lasting impact. I see my practice in the field of Narrative and Spatial Design as well as Art and Design Education moving towards the instigation of small social changes which can have a cascading effect over generations.

I want to translate large public exhibitions/ art installations into traveling objects/ books for a wider audience, each could be addressing different/similar issues but culminating within the larger topic of accepting and respecting ambiguity- be it in gender, sexuality, religion, thought approach, language, culture, visual attributes etc.

Conflict is generated because of an innate inability to justly classify others, leading to misinterpretation. This inability is often unintentional; and is handed down by centuries old power structures, keeping 'the believer' in a 'bubble' without us realizing it; rather making us feel empowered by it. I would like to explore ways of commenting on these misinterpretations and possible long-term interventions through awareness and visual education. In other words I keep wondering if I can help by giving 'the believer' tools to pop our own 'bubbles' in our own contexts. But to be able to do this, I have a long winding road to traverse and it starts with understanding the context of ambiguity and classification as a cultural norm.

This deconstruction of ambiguity and classifications is the premise of the current research being presented here. I look at this as the foundation block for further investigation, for me, as a designer and scholar over the coming years.

As a creative, when faced with a difficult situation I choose to express myself in metaphors. I try to articulate the essence of an experience and not the happening itself.

Metaphors are an escape from a concrete acknowledgment of my experience, but at the same time, are important tools to embody the experience for a variety of audiences. To manifest my present research into a more concrete setting instead of an esoteric one, I decided to use the pangolin as metaphor- an obscure, solitary, misrepresented and often not recognized endangered animal species. The pangolin here is a metaphor for understanding ambiguity, but is also a vehicle to exemplify the possibility of creating alternative narratives as small interventions, to engender the hope for long-term change.

The pangolin started off as a representation of myself, my weaknesses and my resilience. My capacity to protect myself and those close to me. The act of curling up in plain sight, as defiance and the instinct of hiding as self preservation. They said I was born fragile, they studied me, they tried to save me, I was imperfect, I was unique and deemed a curio. They tried to devour me, I came out scathed but alive. The pangolin is a symbol of fear of unpredicted dangers and also resistance and adaptability to what is to come. But at the same time the pangolin can be a symbol of unrecognized ambiguity and often unappreciated support from unexpected sources.

Pangolins I am told are also a representation of the visual arts, so beautiful and unique, yet being overshadowed by other seemingly more lucrative disciplines of learning.

## Methodology and Personal Affiliations

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As a designer, I have been constantly thinking about some of the following ideas over the years. The opportunity to probe further through this thesis writing has lead me to articulate my thoughts and explorations thus far. These will help, the reader, better understand my current disposition.

I am an ardent reader, who picks up books with interesting titles, bookmarks articles and journals on the web, listens to some podcasts and tries to follow popular film culture. I always have a list of books left unread and I still do. I will not claim to have read or heard all that there is on any of these topics, but I have made an effort to read varying perspectives with the intention of recalibrating my understanding.

Apart from these sources, my writing also refers fiction which I have read over the years, and have availed here, as examples. I have also used quotes by people I have met and whose work I have greatly admired. Overall, the approach was to distill my thoughts about my design work, its context and its impact into a series of chapters, illustrating my intention of being a designer and educator whose primary role is to be an aware and responsible intervenor.

In an attempt to invite the reader into my world, here I present some ideas and concepts that I have been exploring through my work, including the present research. I would like to lay them bare, so as to help the reader better gauge my standpoint as a designer and aspiring scholar.

Most of these are not directly mentioned within the rest of the thesis writing; but these explorations have been integral to developing an understanding of ambiguity, classification and association. Each section is crafted in assimilation with its predecessors on the list. It could be said that these are initial building blocks of the way I intend to see the world.

### **A personal interest in the 'nature' is becoming more dominant within my work.**

This includes the relationships of humans among themselves and their relationship as a whole to the natural world. There are things that we have constructed and are fighting over, and things that we are a part of, but are constantly pushing against. Nature and Humans are often incorrectly defined as two polar ends. But as I begin to slowly explore this theme further and read about it, I have started to define this relationship as:

1. Humans in Nature: the intervention and the existence of humans as either parts of nature or disrupting nature.
2. Nature in Humans: Human body and mind can be perceived as a distillation of nature itself; this is something which cannot be ignored and continuously affects our everyday lives.

### **The right to existence v/s the privilege of existence, is another aspect I question while approaching my design practice.**

Growing up we all learn about things we have a right to own, do, create, be and what are things that are beyond our rights. Often our sense of entitlement is so obtuse that we fail to see these rights as privileges. Often these privileges are earned by the chance of birth, families etc, which are beyond our control. If one is taught to address every exertion of 'right' as also a 'privilege' and not merely an 'entitlement' we would be less likely to 'oppress' the ones 'less privileged' than ourselves.

A podcast I regularly follow called *Invisibilia* by NPR often tries to bring into discussion the ideas behind social rights and their exertion within certain contexts. And many examples they share deal with the concept of co-existing and respecting invisible differences by acknowledging their presence. From discussing women's 'rights and privileges' in Rwanda to homelessness in the United States, they cover a variety of topics and have visitors speaking about their experiences (Miller, Rosin, & Spiegel, 2016).

This discussion of 'privilege and entitlement' is central to a lot of work I do and would like to pursue in the future. It brings us to look at one of the larger sections of society which are privileged in many ways but often fail to notice it.

### **The middle class of a society; who have both access and agency.**

I identify as an individual who grew up in a middle class Indian family and my access points have been defined by this existence. There is a need to understand this spectrum of families who have access to education and some form of 'privilege'. A simple example being: why is high school education a 'right or entitlement' for one person, while for another it is still a 'privilege'?

Most of my work is also aimed at this particular spectrum of society because awareness generated at this 'middle' ground could have a long-term impact.

As observed in a survey done by *The Hindu*, a leading newspaper in India, a variety of people self identify themselves as 'middle class families', irrespective of the income and living situation. As mentioned in the article describing the results of a survey, by Kapur and Vaishnav (2014); the self perception of people varies in large deviations from the objective reality. People identify themselves within the middle strata on the basis of education and access more than income. 'Class definitions' are becoming significant identifiers of difference; they now stand instead of 'caste definitions' in many contexts. This is not to say that the system of caste has been abolished from the imagination, but to simply extend that the system of 'self-identified class' had been added as a layer instead.

### **Educational and non-educational structures with limited access.**

Here I mention only physical structures and explore their relationship to my practice as a Spatial Designer. In a few years of practice, I ended up working for some museums, exhibitions and public spaces which were designed for a 'specific public' and not accessible to all. These experiences got me thinking about my choice of medium.

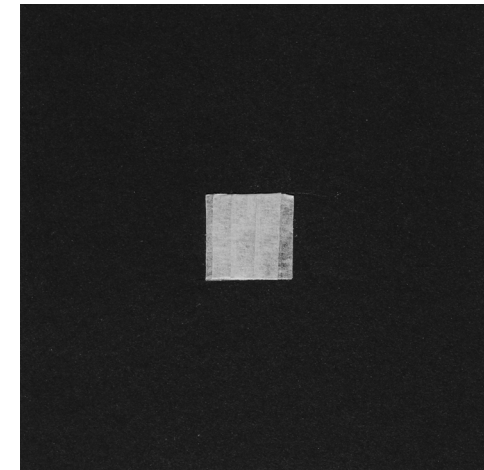
In some cases, exhibitions are aimed for a specific income group who have physical access to certain public spaces. In other cases, the exhibitions are designed to be 'open to all' but the sheer design of the space is intimidating for someone who does not self identify as a 'middle or upper strata' individual. Often even for people, who do identify with being on the upper rungs of the ladder, it is not always a simple matter of walking into a space. People can feel out of place because of their own visual appearance or the appearance of the space. Many other factors also play into the physicality of access.

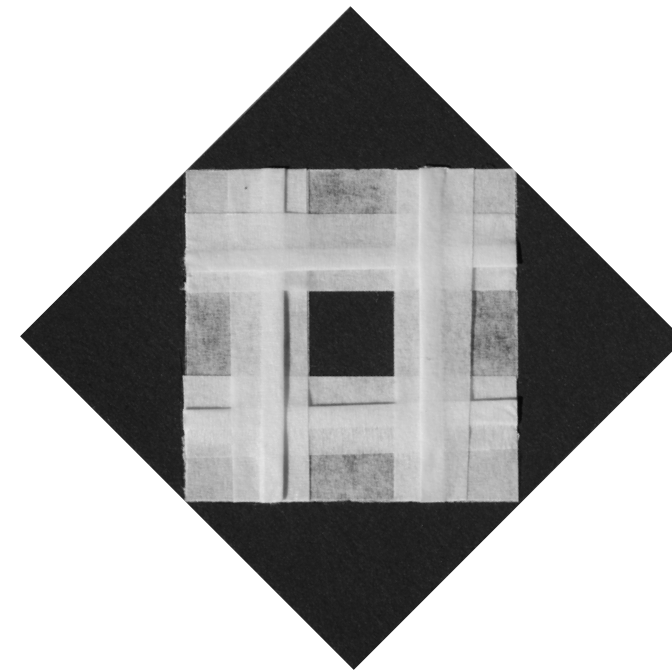
But mostly, in the context of middle strata Indian families, people don't take the time to visit exhibitions, as they would rather spend precious time earning money, to better provide for their families. This has been true, for individuals, even from higher income bracket families.

My understanding of these educational and non-educational structures, lead to an intention of creating design interventions which enter lives through dissemination and not depend on expecting the audience to come looking for them. Although my practice has helped me look deeper into these concerns, within the premise of this thesis I choose to concentrate on entities which are disseminated with the intention of instigating change.

The thought of disseminations leads to questioning the relationship between site (physical, ephemeral, discursive) and work of art/design. Work is of course made in a context, by a certain person, for a certain audience; but to view it solely through that lens would not be possible or even an option.

Similarly any intervention made within the real world can never be devoid of its context and yet not always be viewed within it. I want to explore this multidimensional nature of design, which changes as per the context and medium of release. For example: how a narrative intended for a children's picture book, translates to an object in a public space to a space itself. This interest in multiple entry points, tailor made for varying contexts, greatly informs my practice.





*Figure 5 & 6. Perspectives; mill board paper and masking tape*



Hypothetically, if all these thoughts could co-exist in a means of dissemination, we would be bombarded with layers to navigate through. This is where narratives could be handy, as a means of streamlining the navigation. Because, faced with the huge task of letting go of ideas and concepts one is taught since childhood, we could use all the guidance possible. And stories have the power to do so, as one will discover in the third chapter of this book.

Privilege, rights and duties are some concepts which are unconsciously handed down to us by social structures as we grow up; one cannot and maybe must not eradicate their existence. As V. J. Steiner (1997) explores in the book *Notebooks of the Mind: Explorations of Thinking*; learning is embedded in the very fabric of growing up, it includes every encounter we have: the good and the bad. Try as much one cannot remove the biases passed down to us through our families and societies, as often these biases exist in forms unseen.

The question remains can one start to unlearn these classified associations? Can the start of this be simply by making them more visible? Often things go undiscussed because, we, as a people are unaware of their existence or are scared of them not fitting in our predefined norms of classification.

Through designed visual and educational interventions, the intention is to reinterpret ambiguity and embrace multiplicity. To move towards acceptance and respect by 'making visible' instead of rejection on grounds of uncertainty. The understanding of classification, in contrast to a nebulous existence is the first step towards discussing 'visibility for all'; not as part of design alone, but as the resultant discourse, leading to eventual change.

## CHAPTER 2 | Understanding Complexities

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## CLASSIFICATION AND ASSOCIATION

A much publicized report by the Census of Marine Life, published in the *Science Daily* (August 2011) stated that the earth could be home to an estimated 8.7 million living species. Another calculation made by researchers at the Indiana University, Locey and Lennon (2016) published by *PNAS* suggests that this number could be as high as 1 trillion. As sources of information describe these estimates, the number is often followed by a phrase akin to “most of which are yet to be described and cataloged.”

Scientific description and cataloging comes as a result of classifications into categories depending on analyzed data. In this chapter I am exploring the means of classification, not from the point of scientific learning but as a possibility of embedded tunnel vision in anthropological practice.

From the point of view of scientific data, these classifications are really important. But for children growing up in an uncertain and complex world, we need to provide educational scaffolding which also embraces ambiguity; leaving space for subjective perception and interpretation. Objective classifications of behaviors, activities and attributes- encourages a reductionist perspective leading to discomfort and eventual rejection of anything/anyone different, less known or not understood.

“For the objects of mathematical knowledge do not appear now in one guise now in another, like the objects of perception or opinion, but always present themselves as the same, made definite by intelligible forms.” (pp.105-106) says Euclid, in *The Creation of Mathematics*- as quoted by Barbara Maria Stafford(1993) in her book *Body Criticism: Imaging the Unseen in Enlightenment Art and Medicine*.

Growing up I have been fascinated with anything geometric or scientific; but now I am building a case against presenting entities as “the same, made definite by intelligible forms”. As human activities and behaviors are not a “mathematical knowledge”, but a plethora of emotional variances (pp.105-106).

But before delving into anything ambiguous, I decided to decipher the nature of the practice of classification and association which probably goes back to a time before humans started to record their thoughts and stories. Here, I describe a few key concepts over the past centuries which might have lead to the way we view ambiguity and understanding in the visual education world today. I introduce this, as a precursor to my research into the possibility of using designed visual and narrative educational practices, as a way of encouraging coexistence.

## THE ANALOGY

As described in my introduction, I will be using an endangered species of animal- the pangolin as a running analogy throughout this chapter. I hope to help the reader see the pangolin as a representation of the ambiguous- the unrecognized, unrepresented and forgotten beings- both within and outside our species.

(A rendering of a new born pangolin has been presented on page 9, *Figure 3*.)

## Abstraction and Minimalism

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In my quest to understanding this phenomenon, I came across physiognomics , a curious practice (considered scientific during the 17th century). Stafford (1993) in her book *Body Criticism* says, “It’s purpose was to see “what we do not naturally see,” to know what we do not humanly know. It wished to comprehend the indeterminate determinately, and the unstable stably and firmly” (p.91).

She takes her readers through a fascinating journey of understanding a “science” prolific in the 17th century and its relationship to the world. She states that physiognomy was viewed as a reprieve from “the deliberately fabricated incongruity between exterior and interior” (p.86). Stafford (1993) states Pernet’s claim that external physiognomic indicators were a sort of “image” of the soul because “the form of the soul imparted “the form which the signs have”” (p.89).

Pernet has been quoted by her, “Ordinary human beings were everywhere accustomed to being duped by a face.” (p.88) implying that physiognomists believed themselves to be the experts of their trade and wanted to save others from “the misleading ways of the world (that) could unravel this “chaos” of seeming” (p.87).

Dear reader, does this sound like anyone you know? To me it does, but this is probably not the right moment to bring it up. Let me say this instead, I will restate this very sentence quoted by Stafford (1993) again, at the end of this book, and you will see my perspective. For aren’t we all physiognomists of some kind?

Apart from the above, there is one other interwoven relationship between this ancient art/science of physiognomy and visual arts education- physiognomists too used drawing, minimalism and abstraction as their primary tools. As cited by Stafford(1993), Lavater spoke of drawing as the chief tool because it is “the only medium of fixing with certainty, of portraying, of rendering sensible an infinite number of signs, of expression, of shared, which it is impossible to describe in words” (p.96).

Later his observation on silhouette and characterization is stated as, “the immediate impress of nature.” It bore “a character of originality which the most dexterous artist could not hit, to the same degree of perfection, in a drawing from the hand” (p.98).

Miles (1994) also discussed Lavater in her book *Saint-Mémin and the Neoclassical Profile Portrait in America*. While discussing his work with silhouettes in the “pseudo-science of physiognomy” (p.36) she writes:

He argues, “What more imperfect than the human figure drawn after the shade! And yet what truth does not this portrait possess! This spring so scanty, is, for that reason, the more pure.” He used profiles to provide examples of how to distinguish, for example, the sane from the insane or the imbecile, or how to detect the generous, the philosophical or the overbearing- all from the proportioning and the shape of individual features. (p.37)

In the book Miles (1994) describes in detail the extensive use of portraiture by Saint-Mémin and his contemporaries, she takes us through the invention of the physiognotrace and the wide use of such technologies, in highly detailed representational drawings. The problem does not arise with this particular style of representation itself, but when such drawings are logged together on contact sheets or family portrait sheets, which give rise to comparison and perceived differences. For these drawings are mere representations or “likenesses” and not the people themselves; as Saint-Mémin’s advertisements in newspapers have been quoted by Miles(1994) saying, “Likenesses Engraved”(pg. 87).

The intention of using abstraction and minimalism as staple tools for physiognomy was very similar to a visual arts classroom; i.e. to help students represent the “essence” of people and objects. As art and design educators, we do not know or consider the past of this terminology. But breaking open the idea of classification on the basis of abstraction and/or minimalism may help us identify ways of addressing social biases and discrimination. An art and design classroom setting is a powerful place for discourse about the way we, as a species, view our world; and maybe we have to look deep within our own practice to find points of discussion.

Elucidating Lavater’s standpoint, Stafford(1993) writes that

Lavater had freely admitted to his critics that he made use of “abstraction” and “classifications.” - “Only categorization, systematization, and standardization saved the “scientific” physiognomist from being overwhelmed by the mob” that which has also been called the “multiplicity of his miscellaneous subjects”. (p.103)

Does this suggest that we are unable to view the world in all its complex glory and would prefer to abstract reality for fear of being “overwhelmed”. Does “multiplicity of (the) miscellaneous” (p.103) scare us so much that we start to define being either ‘able bodied’ or ‘disabled’ or ‘differently abled’ or ‘specially abled’ - call it what we like they are still categories which are a reduction of the complexity.

Probably we have been doing exactly what Lavater did, we are just not being as honest as him about it. Perhaps being honest would be the first step towards attempting a resolution. I would argue, a visual education setting is a great place to begin, for the goal is to create resilient members of society, capable of questioning methods derived centuries before we were born.

Stafford(1993) expands the idea of normal through another, yet older example:

The idea of “normative” anatomy had existed since Vesalius. It was customary to urge that the cadaver used for public dissections ought to be as “normal” as possible (a “middle” or “general” form). Thus other bodies might be compared to it with an eye to assessing non-natural deviations from the norm. (p.108)

It could be argued that these were classifications confined to the ancient medicine world and would have no permeability into our modern everyday lives. It may have started with finding a “normal” body to understand the unknown internal organs, but it can be clearly seen that by simply defining something as “normal” which would equal ‘good’ we have invariably, defined a binary extreme to “non-natural” (p.108) which then becomes ‘bad’.

By doing so, we have started a chain of events almost invisible but dramatic enough, such that our worldview is now divided into extremes and means. We have successfully devised a way of defining the good, the bad and the acceptable.

Stafford(1993) explains “This tidy groupings encouraged the views to “average” extremes and to “discover” the mean between high and low, ideal and unideal features” (p.102). She exemplifies with a religious example later in her book, “Vice, then, resembled heterogeneous matter. Formless, that is non-geometrical, it was a ruleless, orderless, disproportionate multiplicity. And, as such, was deemed both evil and ugly” (p.108).

This dramatic classification and categorization of entities is what disturbs me and I tend to explore ways of blurring the boundaries of definitions. Not only people are looked upon as good or bad; as designers we even have association with visuals and objects, their form, color, placement etc, which we not only explore but exploit. We build things to sell; and exploring associations is one large part of our practice. As many have heard me say this before “I am interested in the small social changes which can have a cascading effect over generations.” It therefore is an irony that I plan to use similar methods of association, which I am currently critiquing.

Hence, I present a study of both changes which might have happened, and changes which individuals like you and I have the potential to create. The above was an example of the shift in world-view, maybe there was no other ways this could have played out over the centuries. But maybe, individuals described by Stafford(1993) and Miles(1994) like Vesalius or Lavater or Pernetty or any of their contemporaries or successors, could have done one small thing differently. And then maybe, we would be living in a different world. For better or worse I am not inclined to claim, I am simply advocating for the potency of a well intended and carefully placed incision, which might have a positive long-term impact.

## Classification by the Convenience of Similarities

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“To know must therefore be to interpret.” (p.32) said Foucault (1970/1994) in his much read book *The Order of Things*. A medieval text, discussing the interpretations of signs and similarities using analogies. Although the analogies used by him are very different from the ones I propose to use in my writing, the structure of relationships defined by him are very valid and useful in this context as well.

In the context of defining an object in relationship to other objects around it Foucault (1970/1994) has said:

The recognition of the most visible similitudes occurs, against a background of the discovery that things in general are ‘convenient’ among themselves. And if one considers that conveniency is not always defined by actual localization, but that many beings separated in space are also ‘convenient’, then again a sign of their conveniency is essential. (p.28)

This notion of identifying similarity based on convenience may seem absurd at the onset. But when examined in detail it demonstrates the multiple ways we function in the world of classification and association.

To understand this further, I decided to go back to the analogy of the pangolin to represent ambiguity. It is a creature not well known, elusive and visually absurd- it is covered from head to toe in scales but gives birth to live babies- a contradiction in the traditional definition of both mammals and reptiles. If we take Foucault’s(1970/1994) word for it, then “to know must therefore be to interpret”(p.32).Let us look at different ways the pangolin has been interpreted in the quest “to know” it. By elaborating on this specific example, we would then be able to zoom out and appreciate how we “know” all things through modes of interpretations and associations.

Interpretation does not exist only on the physical layer of the external and visual, but also manifests through signs derived from the visual and the resulting associations.

“To know an animal or plant, or any terrestrial thing whatever, is to gather together the whole dense layer of signs with which it or they may have been covered” (p.40) said Foucault(1970/1994) and that is what I intend to do here.

Let us first look at the ‘convenience’ of categorizing the pangolin on visual similarities. In the *Journal of the Asiatic Society of Bengal*, Vol 11, Lieut. R. S. Tickell, Political Assistant, S. W. Frontier describes the pangolin he observed in the Museum of the Society at Calcutta (now Kolkata), in April of 1842:

Body and tail thick, the latter much flattened, the section would be an obtuse angle, with curvilinear apex. Limbs short, stout, very muscular; the entire figure giving evidence of the enormous power of the animal. Head small, with elongated muzzle, a well shaped nose (somewhat as in a dog), small mouth; eyes very small, places far backward and close to ears. (p.222)

We see that Lieut Tickell(1842) has started to draw a picture with his words, trying to use other known examples, like the dog’s muzzle, to explain what this “rarest quadruped, (I imagine) in India” (p.226) looks like. (In six years of residence in the forest, he had seen only two specimens.)

To understand anything unknown, we try to relate it to the known, to draw a mental picture of what this curious creature could be like. It is only natural to do so. But only by appreciating this tendency of association will we be able to consciously reject unjust classifications or interpretations.

In modern news articles the pangolin is often referred to as “a walking pinecone” or an “artichoke with legs” - because it is simply convenient to equate an unknown or obscure entity to others we relate to. Some would insist that it is an informal and harmless practice. But I wonder if equating an endangered species of animals, being consumed as meat to known food items or plants, could really be harmless?

This form of classification is also not as informal as we presume. Science too is a process of association through iterations.

When scientist started to classify the pangolin into a mammalian order they had a trial run of placing the pangolin in Xenarthra with anteaters, armadillos and sloths (because they are all toothless). But then it was discovered that, like the aardvark, pangolins have descended from a different species and so were put into their own distinct mammalian order, the Pholidota. (*Figure 7: anteater, armadillo & aardvark*)

Now let’s take a step back to review this, both aardvarks and pangolins were classified in the category Xenarthra which is a familia of mammals known for their diet of ants and termites due to the lack of teeth. But diet was just a similarity of convenience, when probed into further, the discovery came through that these animals had evolved differently and had to have a different category. It is not very dissimilar to humans categorizing each other as vegetarians or meat eaters or sometimes more specifically as beef eaters or non beef eaters. I choose not to digress into discussing cultural human categories, but I simply wish to point out that the categorizing of animals is not far from our tendency of categorizing each other.

Apart from toothlessness or diet there are other similarities of convenience between the pangolin and the Xenarthra group- which were demystified later. Naish (2015), a science writer in his online article for the *Scientific American* says, “Pangolins look more like xenarthrans than they do like carnivorans - but looks are deceiving.” He is referring to the recent DNA and amino acid sequencing studies that point in this direction.

In fact this new research may be the reason why Naish (2015) stated, “Sometimes when I look at pangolins I can imagine a civet-like mammal beneath those scales.” There is a new association to a civet being used- because now we know that the pangolin is similar in nature to carnivores than other anteaters. Both the civet and pangolins are in the same size range and are both nocturnal creatures. All these factors are conveniently piled into an association of similarity. Let us call this ‘the convenient similarity of features’.

Moving on from associations formed due to proximity in physical or habitual attributes, let us look as a metaphysical set of conveniences. The pangolin has two special features which sets it apart from most animals we know, these features have also been the origin of some of its names in regional languages in different part of the world.

In Malay, pangolins are called *pengguling*, which would translate as roller in English or can be construed as something that rolls up. Rolling up is a very successful defense mechanism used by the pangolin, when threatened by lions or other predators in the wild. The pangolin has strong muscles and most predators are unable to pry it open.

In Hindi, pangolins are called *vajrashalka*, which translates as strong-scales. Strong here is a metaphorical translation, as the word *vajra* is often used to describe a concept of strength and mythological invincibility, resulting for the word to be also translated as diamond. Hence *vajrashalka*(pangolin) is diamond/unbreakable/invincible scales. These are multiple layers of meaning being added to the image and characteristics of the animal; eventually leading to the scales being coveted for assumed medicinal value.

The scales of a pangolin are made of keratin- the same material as our nails and hair- they are really strong and also help the pangolin defend itself against sharp claws and teeth. But unfortunately, consuming them has as much medicinal value as consuming our own nails and hair i.e. scientifically speaking- none. Some might argue that these connections are far fetched- but looking at the patterns of importance attributed to pangolin scales and meat in today's world, it seems like a pretty straight course. Even if you don't fully agree yet, you will hopefully be convinced soon. Let us for a moment call this 'the convenient similarity by interpretation'.

To define the final section of convenient similarities, we need to know one other thing about the pangolin- it is a solitary, nocturnal creature- very difficult to spot, few people living in areas near native forests have seen many pangolins. This elusive nature results in the pangolin being a rare catch, hence precious. Many African cultures would use it as a gift to the chieftain of a tribe or in Asia it would be gifted to kings to be consumed as food and/or to make battle armor from the scales.

The attribution of invincibility has led for the pangolin scales to gain popularity as an ingredient in eastern medicine and oil, now being consumed in many parts of the world. It is ingested in the hope of absorbing the strength of a pangolin. It is consumed with the intention of evading cancer among other diseases and is also popular among pregnant women to produce a healthy offspring. Some customers in east Asian restaurants are

also reported to have requested to take home the blood drained out of pangolins before cooking- as pangolin blood has also been attributed medicinal properties.

Finally, when both the attributes of being invincible and precious are combined, we realize that the pangolin becomes a symbol of power. Historically it was saved for chieftains and kings, now economic redefinitions of power show that people consume the pangolin because they can afford this rare delicacy and it is something to boast about.

Of course now the pangolin is rare for another reason altogether- of the eight existing species, two are now critically endangered, two others endangered and the rest are vulnerable to extinction. A different measure of preciousness altogether, but is still feeding into the same system. It is now being extensively poached in Asia and Africa, and sold for exorbitant prices on the illegal trade market. It may be considered ludicrous, but this illegal poaching cycles back to the problem of the species being vulnerable to extinction, which in turn increases its value, hence demand.

The relationship of power projected on possessing something rare and precious has directly led the pangolin to its present fate. This I would call, 'the convenient similarity by projection' because it all comes down to the projected meaning through all the layers of associations and interpretations.

Putting all the three similarities of convenience together, we get:  
the convenient similarity of FEATURES  
the convenient similarity by INTERPRETATION  
the convenient similarity by PROJECTION

When we observe these three together, we see that they are almost the three steps of understanding used in many visual representational practices.

In different forms of design drawings or graphical representations, we observe attributes or FEATURES, we INTERPRET their meaning and we PROJECT our understanding on them; creating a layered experience for our viewers or audience. These are skills we learn and use as a staple in our practice as designers and artists.



An artist-educator, Rachel Deane, after-school arts teacher (Fall 2016) at Project Open Door, RISD said, "I made my curriculum about 'Identity', the whole point was to have the ability to manipulate whatever you see, make it your own- give it your own meaning. It boils down to sending your own message" (R. Deane, personal communication, February 25, 2017).

This process of making meaning, is what makes art and design practice really exciting. We learn the power of manipulation through means of association and are able to create experiences through this acquired skill. The visual education settings which gives us tools to manipulate, should also give us tools of foreseeing the consequences of our manipulation. Educators hold the responsibility of understanding these complexities and appropriately weaving them into their pedagogy, so as to encourage critical thought development from a young age.

I am very privileged to have been through educational settings which opened doors to such sensitivity and encouraged me to analyze my practice. I am currently working with projects oriented towards creating a balance between human life and environmental concerns; and am still in the process of internalizing that my interpretations could lead to probable future consequences which could be detrimental to our very existence. But that does not mean I choose not to try, I simply have to be more responsible as a designer, communicator and intervenor.

Through my understanding of 'the three similarities of convenience' I have also started to question interpretation based on similarity itself. I know, that most of us in the world function on categorization through observing similarities and differences. But these function on a scale of two extremes, where eventually the mean value or normal, becomes the point of evaluation.

What if we decided to live in a slightly ambiguous world? Ambiguous like the pangolin- instead of defining it in different categorizations of understanding, we would let it be and appreciate it, in all its strange glory. I know this is probable only in theory, as invariably our brains have been trained to create associations as means of definitions, as soon as we see an unidentifiable object.

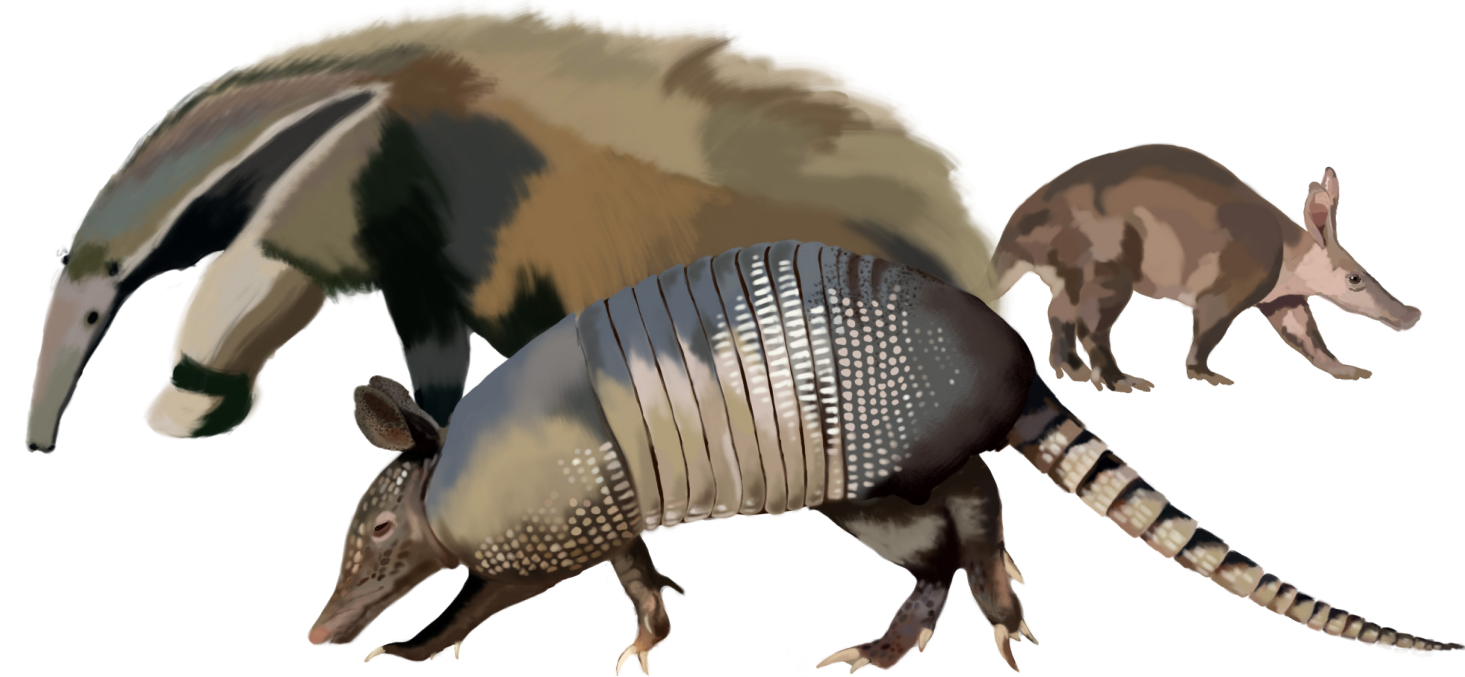


Figure 7. anteater, armadillo & armadillo (left to right); digital artwork

As stated in Chapter 1 of this book, “the construction of the imagination is the most important part of any social practice.” Not all categorization has to be strict, not all attributes can be statistically measured through distance from the ‘average’ or ‘normal’; we can devise methods of standardization, but if we want to be truly inclusive we will always have to keep leeway for previously unpredicted variables.

While I understand the importance of distinction and classification from a scientific purpose, I question the demarcation of categories such that we fail to appreciate the ambiguous beauty of the entity itself. If defined in relation to two other objects, the entity starts to lose its identity and becomes a bit of the two objects it is being compared to. And sometimes objects (and people), we fail to associate with, get rejected and disposed off. But if we started a discourse around ambiguous existence, we might create a space for everything (and everyone) to co-exist.

Ambiguity exists even in our classifications of the animal kingdom. Let’s briefly look back at the idea of mammals and reptiles discussed at the beginning of this chapter. The pangolin, which can be mistaken for a reptile, is currently the only known mammal species with scales. When asked to define a characteristic feature of mammals, a young child would say, “mammals give birth to live babies.” But if we were to look closely there exist some exceptions- platypus and echidna are two mammalian species which lay eggs. Also skinks, vipers, rattlesnakes and boa constrictors among some other reptiles give birth to live offspring. Only if we could paint a clearer picture for the child, instead of teaching them a generalization as an absolute fact.

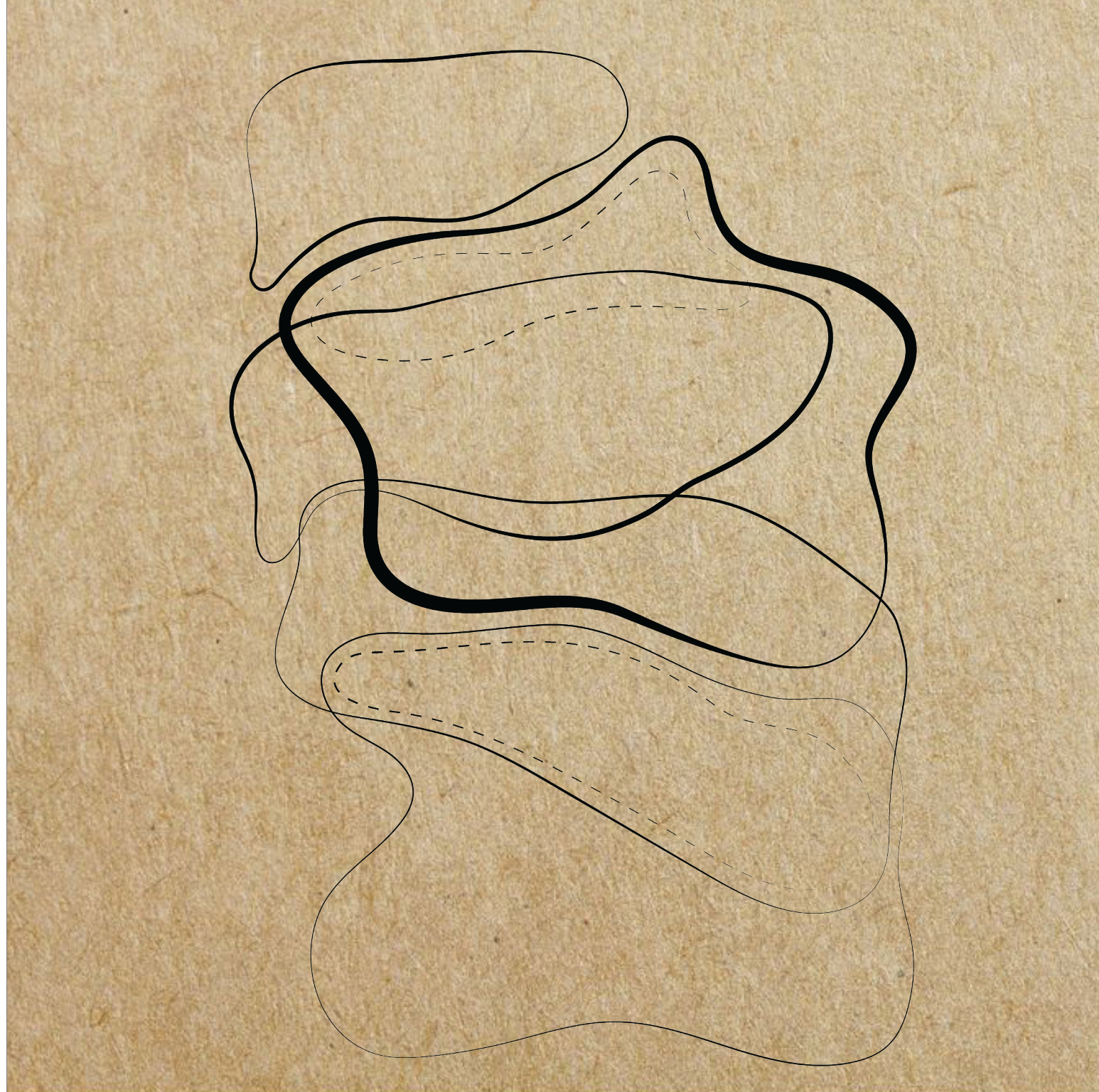
Children are born with clean slates for associations, as adults/designers/educators we have the responsibility of letting them discover beauty through fresh eyes, unmarred by our associations. There are categories, but there is also always space for ambiguity. Children know this, we adults have to learn to embrace it once again. Going back to Saint-Exupéry’s (1943/2015) book *Le Petit Prince* “Grown-ups love figures... When you tell them you’ve made a new friend they never ask you any questions about essential matters”(p.18). Let us try to ask questions about “essential matters” or at the very least encourage children to use their imagination and draw “a boa constrictor digesting an elephant”, instead of discouraging them and saying “What’s scary about a hat?” (p.8).

## **Extremes and Means | A Visual Essay**

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An excerpt from, "The Journal of Abstract Thought", visually exploring perception which functions on categorization; leading to the association with extremes. Where eventually the mean value or perceived normal, becomes the point of evaluation. [author, 2017]









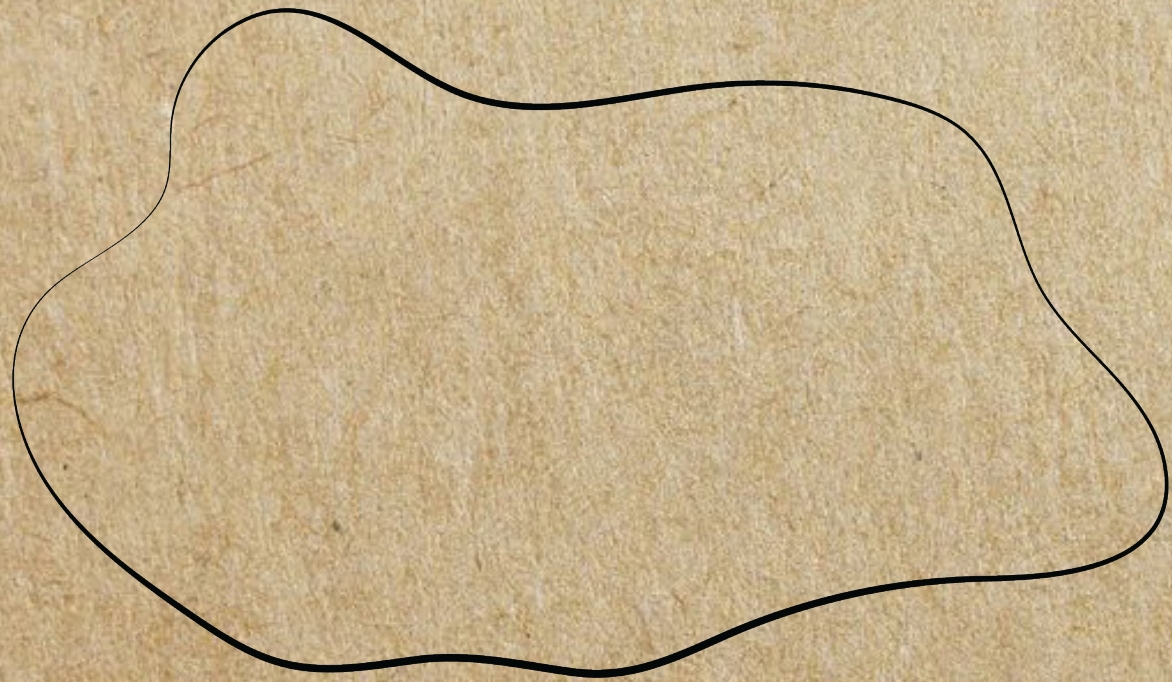




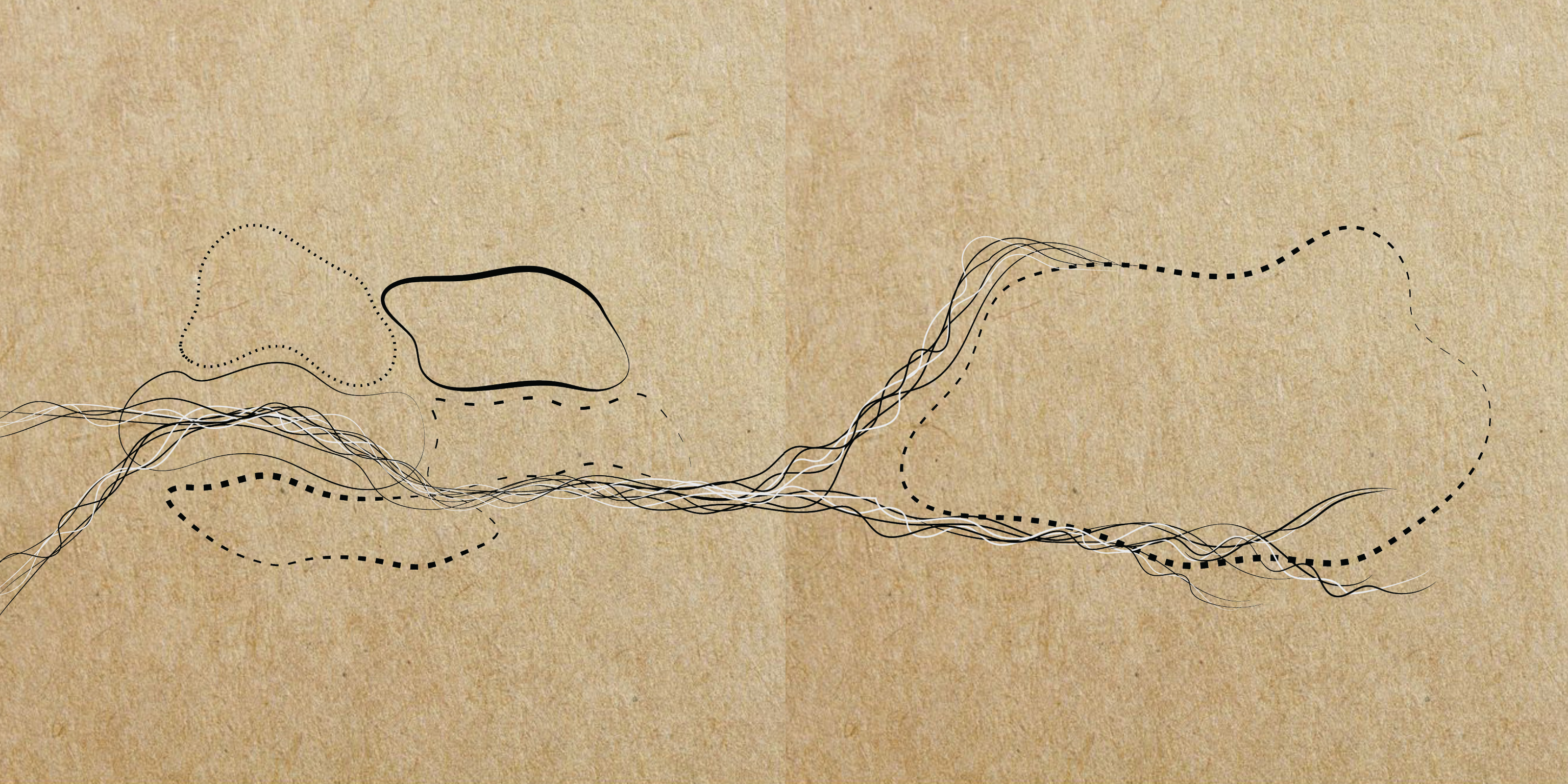








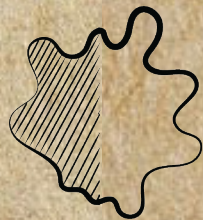
















As stated before, through examining classification of extremes and means, the intention is to bring forth designed visual and educational interventions, which embrace multiplicity instead of rejecting uncertainty. The understanding of classification, in contrast to a nebulous existence is the first step towards long term social impact; not as simply part of the design practice, but as the resultant discourse.

## CHAPTER 3 | Conveying Complexities

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## **REDEFINING NARRATIVES IN VISUAL EDUCATION**

I have so far developed my argument about the importance of ambiguity and foregoing assumptions to develop resilient systems. But my argument invariably hinges on the effectiveness of narrative storytelling to make a relevant impact. I have been converging my practice as a designer and future educator towards using realignment of narratives in visual education, for possible change. To effectively share my understanding on narratives in the context of pangolins and the world at large, I will present four main sections in the world of narratives.

We will start with understanding the power of narratives and stories; then look at examples of ancient cultural associations which could have lead to the plight of the pangolin. We will then discuss creating new narratives and briefly touch upon the role of design education in this context. Finally we will look at two modern examples from popular culture where visual designers have used their narrative mediums to engender a discussion about pangolins.

## Are Narratives and Stories Really That Powerful?

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Seeing the need to elaborate on the potency of stories and narratives, I would like to borrow from some people who have extensively written about narrative storytelling and its role in our world. A lot of research in this aspect has been conducted by educators of literature and oral tradition. I would be using their thoughts to develop my argument for visual storytelling.

The National Council of Teachers of English, USA published in *Language Arts*, 90(1), an article by Kathy G. Short (Sept 2012) on Story as World Making. Short(2012) describes stories as the way humans make sense of their world, she looks upon them as ways of moving between the local and global but thinks that stories haven't had their due in the present educational setting. She feels stories have been used as a medium to divulge other skills, like reading or history, but not for the purpose of the story itself.

Short (2012) writes, "Story captures the richness and nuances of human life, accommodating the ambiguity and complexity of situations in the multiplicity of meanings inherent to any story" (p.10). Referring to Charlotte Huck's (1982) argument about literature being an emotional experience, Short(2012) says, "literature provides experiences that go beyond entertainment or instruction by offering the potential to transform children's lives, connecting their hearts and their minds to integrate reason and emotion". She further elaborates on the connection between the reader of stories and the woven tale by saying, "Children find themselves reflected in stories and make connections that transform their understandings of themselves and the world" (p.12).

Children's stories can often be the building block of emotional intelligence and resilience, which is a much required skill in today's complex world. Stories teach us ways to comprehend "multiplicity of" the "miscellaneous subjects"(p.103) which Lavater intended to avoid through the study of physiognomy, as described by Stafford(1993) in her book *Body Criticism*. We develop a resilience such that we do not have to entirely depend on "categorization, systematization, and standardization" to be saved from "being overwhelmed by the mob" (p.103).

I reintroduce this here, as a connector to my research into historical ways of looking at ambiguity and to build an argument for realigning the tilt through narratives and visual storytelling.

Intelligence has long been boxed into the idea of recollection of information. To help children navigate the growing complexity of the world, we must arm them with emotional and systemic access points. These ideas of emotional and systemic intelligence are briefly discussed later in this book, as they are important long term impact goals, that need to be addressed by designers and educators today.

To comment on the same, Short (2012) has used Katherine Paterson's (2000) argument that "books and stories provide the basis for the democracy of the intellect"(p.16); "democracy of the intellect" is a term Paterson borrowed from Jacob Bronowski (1974).

As part of her closing argument, Short (2012) says, "When people can read freely and widely and engage in dialogue with others about that reading, they begin to think and question, something not necessarily valued," by other social forces (p.16).

In contrast to Short's work on reading, my work here is about the role of storytelling in perception, association and expression. I would like to borrow Short's(2012) phrase to say, "when people can" perceive and express "freely and widely and engage in dialogue with others about that" perception and expression, "they begin to think and question, something not necessarily valued" before.

I know the above argument can be received with skepticism in spite of being very compelling. We want to believe it, but we also wonder does a story really trickle down into human psyche to make such a big difference.

To reinforce this idea I would like to go back to the pangolin, and present to you a window into African mythology.

Although I have developed an argument using the ‘convenience of similarities’ in the previous chapter, I want to reiterate it through the work of Kofi Opoku, described as an “authority on traditional African religion” by the *African Book Collective*.

In the next section, I present to you some excerpts of Opoku’s writing as he introduces us to the context of African mythology, its intent and then leads us to other people’s opinions about the pangolin in this context. I share this particular writing as he has holistically positioned the pangolin in a framework of many African myths and animals, at the same time introducing the culture and human connections attributed to the species.

## The Impact of Ancient Narratives

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Kofi Opoku (2006), has written a chapter on Animals in African Mythology, in *A Communion of Subjects: Animals in Religion, Science, and Ethics*. While delving into mythology he has also introduced the idea of human connection with the stories themselves. Describing the origin and need of myths he says:

The mythology, or “sacred wisdom” of Africa, is the product of the ceaseless wonder of our African ancestors, who raised essentially fundamental and central questions of values and meaning about themselves, as humans in the world, and their relations to the world around them. This ceaseless wondering engendered, from an African perspective, a reflection on the fundamental aspects of human existence and experience that all human beings share. (p.351)

Opoku (2006) describes these mythological explanations of the world as “timeless stories”, different from “entertaining folktales,” because they contained “universally recognizable symbols of psychological and spiritual significance” (pp. 351-352). (He has used excerpts from *The Hero with an African Face: Mythic Wisdom of Traditional Africa* by Clyde W. Ford, 1999). Further still by using excerpts from *Primal Myths: Creating the Worlds*, by Barbara Sproul (1979), Opoku(2006) renders the importance of these stories and tales as ways of perceiving the world in connection to the self:

These answers, which expressed profound and multidimensional truths, helped them to understand themselves and their place in the cosmos, in both its physical and spiritual dimensions, and enabled them to make the “past sensible, the present meaningful and the future possible,” and their whole lives were constructed around these values. (pp.351-352)

Myths and stories have always been ways that we and our ancestors have used to define our world. If we don’t understand something we start to explain it- hence myths are born. But what happens when we are confronted with an animal we cannot possibly explain?



According to Opoku (2006) an impossible existence can be a beacon of hope. A hope that things impossible can become possible by the possession and consumption of this impossible animal. He also adds that “The pangolin baffles human imagination by its inscrutable incomprehensibility and becomes therefore a suggestive metaphor for many” (p.356).

To strengthen his argument, Opoku (2006) quotes Allen Roberts’s (1995) “An Unexpected Kind of Beasts”, published in *Faces: The Magazine About People*:

The pangolin is so “good to think” because it is strangely “human”. The pangolin has a single baby, walks upright, and shows “dignity” when attacked, almost as though it were turning the other cheek. Some Africans make the pangolin the central emblem of healing people who have been unable to bear children. The pangolin is so odd that its existence seems almost impossible. But it does exist. If a pangolin can really exist, perhaps anything is possible! The pangolin serves as a symbol of hope that even the unhappiness of not being able to have children may be overcome. Furthermore, just as a pangolin is protected by its scales, people may be shielded from difficulties. And in the same way that a pangolin rolls itself until adversity passes, perhaps people too, can overcome their problem. (p.356)

I would not disagree, I too decided to use the pangolin as a metaphor for ambiguity and “incomprehensibility” (Opoku, 2006, p.356). It’s uniqueness gives me hope to demonstrate the unjustness of outright classifications and associations. If nature could let ambiguity in the form of the pangolin thrive for almost 56 million years, how can we humans who have barely been around for 200,000 years refuse to embrace it.

Especially in the design world, where we are taught to ask questions and not blindly accept a reductionist worldview. We too use reductive tools of abstraction and minimalism. Perhaps we always will, but if introduced to responsible application, we would be able to create new narratives intended to instigate change.

## Creating New Narratives | Looking Forward towards Change

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Before we delve into creating new narratives, it is important to understand what makes stories so powerful, and are there some stories better suited to the needs of ambiguity than others.

Simon O. Lesser(1975) in his book *Fiction and the Unconscious* extensively explains various story telling structures and their unconscious effect on human psyche. He describes story forms and functions which better engage the reader. I choose to share bits about stories in general and some about the advantage of the “language of fiction” being a “naturally ambiguous” medium (p.154).

On the advantage of using fiction as a medium of divulging complex personal and worldly information, Lesser(1975) says:

Fiction contrives to give us these uncompromising images of our nature and our fate without permitting us to become aware of their personal relevance. It pretends, and we accept the pretense, that the characters whose affairs it chronicles are strangers in whom we have no reason to take special interest. (p.189)

He speaks of fiction and stories as a “light” which “enables us to see without always being able to say precisely what it is we see, to understand without formulating our understanding” (p.189). Such can be the power of good storytelling.

In the chapter *Language of Fiction*, Lesser(1975) speaks of words as they create imagery in the minds of the reader. He looks at language being instantly transformed into imagined visuals and he describes this beautiful phenomenon by saying, “The picture language of fiction has the further advantage of being naturally ambiguous.” By discussing the immersive nature of a well told story, he builds an argument for the “naturally ambiguous” story, because “a story, or a single episode or detail, may simultaneously mean many different things” (pp.154-155).

For me, while writing the children's book, *Out of the Shadows: Nighttime Pangolin*, I had to be conscious of the images as a second layer which would be eventually added to the book. Words and images cannot repeat each-other, what is written is imagined, while the images help construct a context for the imagination. The images introduce new unfamiliar elements while the words create a familiar setting, and sometimes it is the other way around. As I was writing for a very young audience about an animal they probably had never seen, I had to incorporate familiarity in writing while the imagery would build on the ambiguous glory of the animal. The words were carefully chosen to give way to both contextual illustration and curious imagination.

When writing about any subject, we tend to derive meaning from the subject itself. It is not dissimilar to the 'convenient similarity of projection' discussed in the previous chapter. It is a way of thinking we cannot escape, and it is also a way of introducing connections with our reader. When writing even for a very young audience, curling up in a ball translates to fear, or seeing a young one of your own species gives opportunity to trigger nostalgia. Even waiting for the danger of the lioness to pass, becomes a symbol of patience. As discussed before, symbolism is a powerful projection of values into entities to create a connection; I see this as a translation of the "light"(p.189) mentioned by Lesser(1975). He describes this phenomenon by saying, "When the images of fiction have great richness of meaning, it is customary to refer to them as symbols" (p.157-158).

These symbols when used judiciously could have a lasting impact on readers. To illustrate this, I would use the example of a modern writer known to use the power of symbolism in his work. Haruki Murakami is a writer capable of creating visuals through his words. He also understands and embraces ambiguity and absurdity of the world. He uses it as a constant theme in his writing, which both seduce us and yet helps us "understand without formulating our understanding" (Lesser, 1975).

In his interview with Steven Poole, for *The Guardian*, Murakami (2014) says "Strange things happen in this world. You don't know why, but they happen"(para. 1). Referencing to a character from a much loved book about a solitary railway station designer, *Colorless Tsukuru Tazaki and His Years of Pilgrimage* (2013/2014), he continues, "Why that pianist can see the colors of people, I don't know. It just happens" (para. 2).

And this acceptance and fictitious yet honest retelling of these happenings of the world is perhaps one the reasons why Poole(2014) calls Murakami, "the world's most popular cult novelist" (para. 3).

I could go on to describe many of Murakami's books, which deal with shuffling between two worlds; instead I move to another person's work. Having used a literary reference, I would like to use the words of a visual storyteller, who talks about the essence of design and storytelling as an exercise of making a connection with the audience.

Christoph Niemann is an illustrator, graphic designer and author of books for both adults and children. He has been featured in the 2017 Netflix series called *Abstract*. A believer in celebrating the world around us, Niemann uses everyday objects to create doodle stories called "Sunday Sketches" which play around with scale and form, creating ambiguous imagery, often making the viewer smile.

Niemann(2017) speaks about the power of art and design through making a connection:

In the best moments what happens is that design celebrates the world. When I look at a piece of art that references my fears, my anxieties, my hopes and I can say, "There was this one drawing that made me realize that I'm alive or that I love other people or that I'm afraid." (Abstract S1E01, Netflix)

The parallel professions of literary and visual storytelling, are essentially attempting to do the same thing; which is to get people thinking. But authors/designers like Haruki Murakami and Christoph Niemann use this medium, to introduce elements that also touch people emotionally. Design can have the power to transform, by pushing the boundaries of awareness towards sensitization. We designers often have the resources to make a difference, it eventually depends on how we choose to use them.

Yet again to exemplify this responsible use of resources, I once again employ the pangolin and its representation, in the next section, to present two re-aligned narratives in popular culture. Both of these have had a wide audience and were successful in getting the pangolin noticed.

## Narratives in Popular Culture

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Narratives woven in popular culture have a huge defining aspect of many social and cultural beliefs or practices. Often these seep into our everyday world and the rate of change due to these narratives is so slow that we fail to notice it before reaching the breaking point. As I have been using the pangolin as a running parallel to ambiguity, I will refrain from digressing into other concerns which might have been affected by narrative representations in popular culture. Instead I present to you an instance of rewriting a popular narrative which instigated worldwide curiosity and conversation about pangolins.

Under-representation, misrepresentation or often lack of any representation in popular culture, has contributed to the lack of awareness about the existence of this particular species. An animal which has been so conspicuous in its existence, could definitely use some positive representation in media.

To understand the importance of this, one must know that, most online or newspaper articles about a pangolin start with a phrase equivalent to: an endangered mammal, you have probably never heard about. Or there are some not so kind phrases, which describe the pangolin as an artichoke with legs or a walking pinecone. There is no dearth of these articles, all with good intentions, but often not doing justice to the animal they hope to represent.

Rudyard Kipling, a writer of numerous fables, had spent a considerable part of his youth in British India. Although his work is much discussed with racial controversies today, I grew up enjoying Kipling's (1902/2013) book, *Just So Stories* immensely. Looking at his connection to India and his work there, I was almost sure he would have mentioned the pangolin in *Just So Stories*, but I looked in vain. Kipling (1894/2016) had also missed mentioning the pangolin in *The Jungle Book*, a children's book set in the heart of Indian forests. To be fair, he most likely had never heard of a pangolin in his life. But when Jon Favreau, the director of the 2016 Disney adaptation of *The Jungle Book* heard of the pangolin and its plight, he decided to alter this, over a century old, narrative.

About 40 minutes into the film, Baloo, an anthropomorphic bear and Mowgli, a feral child raised by wolves, are harvesting honey. A strange creature wobbles up to the bear and mistakes Mowgli for a monkey. The conversation between this creature and Baloo goes as follows:

Unknown creature, C: Oh boy. Here we go again.  
Baloo, B: Why don't you mind your own business?  
C: He's just gonna run away.  
B: Not this one.  
C: As soon as the monkeys get stung, they always run away.  
B: He's not a monkey.  
C: What is he?  
B: A man-cub.  
C: A man-cub?  
B: Yeah! Could you keep your voice down? I'm trying to concentrate.

While the chipmunk and the creature have a conversation on the side, Baloo tries to ignore them.

B: Buzz off...!

But finally when he cannot take it any more; Baloo turns to this unknown strange creature and we hear Bill Murray's practiced voice slowly spell it out:

"You have never been a more endangered species...than you are at this moment."

(Taylor and Favreau, 2016)

I remember the joke was not noticed by most of the theatre audience around me. But within days of the film being released, the internet erupted with questions like:

“What was the endangered animal in ‘The Jungle Book’ that Baloo joked with?”  
Of course it was the pangolin.

One of many twitter users who commented on this, Rachel Miller, wrote on the 13th of April, 2016: #YouMightBeAConservationist if you’re the only one to laugh at the #pangolin joke in the jungle book.

A conversation had finally ensued, albeit a short lived one. And for this under-represented creature being on the screen in a Disney film, for a whole minute, was long overdue and much required limelight.

Jon Favreau was interviewed by Jeffrey Flocken, member of the IUCN Pangolin Specialist Group working with IFAW to protect pangolins from the wildlife trade. The interview about the pangolin in his film *The Jungle Book* was published in the *Huffington Post* (May, 2016).

When asked about introducing a pangolin in the film in spite of it not being a part of the original story, Favreau(2016) said:

When we were meeting with the LA Zoo- they were helping us with our research for the film- they suggested that we consider featuring the pangolin because they live in that part of the world and they are an endangered species. We said that we would consider it and began doing research. I had never heard of pangolins before. When our art department pulled images, we were inspired by this interesting creature. We wrote the pangolin into the script and as the character developed, we became quite enamoured with him. (para. 3)

He also comments on using the reach of the Disney name for creating further awareness:

We hadn’t introduced Disney to the idea of the character until we were pretty far down the road. He was a supporting player but the scenes that I included him in had a lot of comedic impact. He quickly became a favorite in the screening and I encouraged Disney to include him in their merchandizing. I explained that pangolins were endangered and that we should draw as much attention as we could to this species so that people might become aware of the danger they are in. (para. 4)

This effort is an example of what small acts of representation could do in bringing a conversation to the masses. Director Jon Favreau and Disney used their position as much loved filmmakers, to speak up for an underrepresented animal species and create a conversation around it.

Another powerful organization, which used their reach and resources to educate a large number of audiences about the pangolin is Google. They launched a four day long Doodle game in February 2017. Jordan Thompson, software engineer of the Google Doodle Team wrote on the Google blog: “Pangolins are the most poached and trafficked mammal in the world. We hope that by playing this Doodle game, you can learn a bit more about these wonderful creatures” (editor’s note).

People all over the world had access to the game and again a conversation around pangolins was brought to the forefront. Underrepresented or misrepresented so often, these animals need an uplift in the popular eye. Visual designers like Favreau and Thompson have successfully levied the potential of designed visual education through these gestures of representation. Some may consider them small gestures, but these contribution have gone a long way in the larger context of saving the species.

I have been reading about the pangolin since 2014; and the more I discussed the species with people around me, I realized, the pangolin story needs to be told, maybe in more forms than one.





*Figure 9. getting to know the pangolin;  
digital artwork*

CHAPTER 4 | Present Studio Practice

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## ALL ABOUT THE PANGOLIN

Having described my intention to contribute to the preservation of the pangolin so often, it is now my charge to share with you a part of my current design work. This section is not a part of my thesis research, but a parallel manifestation and application of my learning.

Between prematurely chopped trees, toxic landfills and poached animals, there has been a lot I find myself apologizing for. So I wouldn't say my current work is about the pangolin, but this curious creature is definitely the present topic of my investigation in a large sea of problems- as I have to start somewhere.

In an attempt to raise awareness about the pangolin I set out to create some mini intervention projects aimed at different audiences. The pangolin problem, if I may call it, has different possible spots for intervention and I had to develop an understanding of the system before proposing educational and/or awareness interventions. These interventions have also been designed keeping in mind my intent of celebrating this curious animal not because it is precious, but because it is extremely interesting and is under-represented, or worse still, misrepresented.

A brief explanation of the system of pangolin consumption would be: there are some communities which have a large demand for pangolin meat and scales, others who consume it because it is exoticized, also some who use it's byproducts due to ignorance of pangolin as an ingredient or are unaware of its critically endangered status.



This multi-faceted demand is fulfilled by illegal supply chains which start at poaching and lead into often unchecked, cross-country trafficking due to lack of awareness. In particular, I have been researching the supply chain in India, as there, I could start to try and create an impact. The communities poaching the pangolin are really poor and the hefty sum paid for each animal is a considerable amount for the families. International laws have been put in place to prevent poaching, trafficking and consumption of pangolins, but this circular existence of demand and supply is far from being curbed.

The three design interventions I am currently working on are:

A children's book, aimed at an audience of 4-8 year olds.

Postcards from Chiplun; the first phase of an awareness campaign with an NGO in Chiplun, a village bordering Koyna Wildlife Sanctuary in Maharashtra, India. Pangolin poaching is prevalent there. The postcards address the concern through visual and strategy design in collaboration with school students and locals.

A Museum in a Box; a small portable exhibit like artist book, aimed at increasing curiosity in teens and older audiences.

All the above are exemplars of the kind of work I see myself developing in the future. They have each been positioned in the ideas of dissemination, wider reach and access, especially within middle stratas of society and the privilege of existing, which I have discussed in Chapter 1 of this thesis. And of course understanding our place as 'humans' in 'nature' is at the heart of it all.

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### Children's Book: Out of the Shadows

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I present to you the current draft of the children's book *Out of the Shadows: Nighttime Pangolin*. It is in the process of being illustrated and pitched to publishers. We hope to see it in print in a few months.

(the story is not available with the online version of the document)

## Postcards from Chiplun

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Chiplun is a small village in the outskirts of the Koyna Wildlife Sanctuary, Maharashtra, India. Poaching of pangolins is prevalent in this area and it supports the livelihood of many families. In collaboration with a local NGO- Sahyadri Nisarga Mitra, I have been working to create awareness through visual campaign design. The first piece is a series of posters and postcards created using drawings done by children on World Pangolin Day in February 2017. The intention is to get the children invested in the conservation of the species and to reintroduce their work as educational material within the community.

The posters would be used to create awareness in and around this area in the local language. While the postcards will be made available, in English, at the Koyna Wildlife Sanctuary and in the Museum in a Box, with the intention of creating awareness for tourists, visitors and creating means for further dissemination. It is a set of 4 postcards, with each postcard describing a characteristic of the pangolin. The visitors are encouraged to send one or more postcards to friends and family as a means of disseminating information and spreading awareness.



*Figure 10.* Last summer, that had been him; paper cut out

## **Museum in a Box**

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The Museum in a Box, started as an idea to subvert the massiveness and unapproachability of a museum in many contexts- but that is something I do not intend to examine within the scope of this thesis. The reader would have gathered some understanding of my intention, from the Personal Affiliations section of Chapter 1.

The box was designed to instigate curiosity and to share information supplementary to the children's book. In this day and age, any information can be found online, only if one knows what they are looking for. The Museum in a Box, like any other museum space, tries to create a balance between introducing new ideas about the pangolin, which one might not have considered looking for. At the same time it provides specifics such that the box can stand by itself as a source of information.

The ideas discussed in the box are about the existence of the pangolin over the centuries. Eventually, I intend to add some documented images of the Indian pangolin to the Museum in a Box. But for now it is a distillation of months worth of collected information. Keeping this as a loose trail, I would encourage the reader to visit version 1 of the Museum in a Box at the RISD Library, if possible.



*Figure 11.* pangolin habitat, from Museum in a Box; paper cut-out tunnel book

## Getting to Know the Pangolin | History, Characteristics and Status

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In the discussions of ambiguity and association, followed by my intended design interventions, I have described many physical features and characteristics of the pangolin. To put all of these in context, the next few pages describe in detail the history, characteristics and current endangered status of the pangolin. This is not meant to be a part of the running text of this thesis and the reader may choose to read it at a different time or not at all. It is intended to be considered as information from the appendix, simply integrated within the body of the main text.

### **The varying species and where they are found:**

Pangolins are curious creatures- the only placental mammal with scales currently known to humans. They spend most of the day curled up, sleeping deep underground. There are a total of 8 known species of pangolins that walk the planet at the moment.

4 of which are found in Asia:

- Chinese pangolin (Critically Endangered)
- Malayan or Sunda pangolin (Critically Endangered)
- Thick tailed Indian pangolin (Endangered)
- Philippine pangolin (Endangered)

and the other 4 are found in Africa, all of which are also vulnerable to extinction:

- Tree pangolin
- Long tailed pangolin
- Giant ground pangolin
- Cape pangolin

(“Save Pangolins”, 2016; “Manis javanica”, 2016)

### **It's uniqueness and the mammalian order it comes from:**

For a long time, scientists believed that the pangolins were much like the armadillos and anteaters we know. But the more they discovered about the pangolin, they realized that they were in fact very different from the many species humans had classified them with. Distinct in their existence such that scientists have placed pangolins in their own mammalian order called the Pholidota- no other creature is yet known to belong to this order. The armadillos and anteaters are now a part of the mammalian order, Xenarthra.

Pangolins can be traced back to their origin in Eocene Era, it is considered the time of the beginning of life as we know it. Which was fairly in the beginning of the Cenozoic, a time period more than 56 million years ago.

Excavations and study of fossils surprisingly show us that the pangolins have largely retained their original form and characteristics, while other mammalian orders adapted and transformed considerable around them depending on their surroundings This being a largely debated hypothesis and still being extensively researched, as reconstruction of existing fossils could take the form of both Xenarthra and Pholidota mammalian orders. Some researchers also argue that the pangolin may be a distant relative of the stegosaurus, as the last of the stegosaurs found at the end of the reptilian era were very similar in form and size to the first pangolins found at the beginning of the mammalian era; which at the evolutionary scale is not very far apart in time. A hypothesis yet to be proven, but interesting nonetheless.

[“Evolution of Modern Mammals and the Cenozoic,” 2016; Maclean-Henry, 2012; McCarthy, 2016; Naish, 2015]

### **Some characteristics explained:**

Solitary creatures, pangolins are difficult to spot, as they mostly escapade out at night in search for food. Around 2 hours after sunset, pangolins are known to peep out of their burrows. They spend a considerable amount of time sniffing around the entrance, to confirm safety before venturing out. Once satisfied, they decide to come out and go on a

hunt for food.

Pangolins like many nocturnal creatures have less developed eyes and hence poor eyesight. They largely rely on their strong sense of smell when prowling around for food. Pangolins leave behind a trail of scent which they could follow back to their burrows. Like many other territorial animals, pangolins use their secretion glands and excreta to mark their territory. Some researchers believe that pangolins can hear sounds from as far as five miles away.

Pangolins usually walk on their hind legs, with occasional support from their strong tail. Only when a pangolin has to cover a large distance in a short span of time, does it use the knuckles of the front paws to support its weight and speed. This ensures that the nails on the front paws remain sharp for digging. The tree pangolin, also uses the strong muscles in its tail to swing from and climb trees.

The usual meal of a pangolin comprises of ants and termites, probably why they were assumed to be related to the anteaters and armadillos in the first place. Pangolins have a long and sticky tongue like the chameleon and use it to consume their prey. Their long sharp nails on the fore legs help them dig through ant-hills and tree barks. Their strong tongue searches for food, within the winding hollows of the ant and termite hills. They don't have teeth to chew their meal, but they are known to ingest small stones which help in grinding their food in the stomach, much like a bird's gizzard.

When being attacked by a pangolin, ants and termites usually use the strength of their collective force to retaliate towards their predator. But pangolins have very strong muscles in their eyes and nose, which they use to tightly shut these orifices, when attacked by ants and termites.

Pangolins have developed a set of very strong defense mechanisms against potential predators. The first reaction of a pangolin, when faced with danger is to curl up into a tight ball, the strong muscles prevent predators from unrolling the pangolin. Like skunks, pangolins have also developed a smelly spray, which they use to scare away any predator. In some cases curled up pangolins are also known to threateningly move their scales,

making a creaking sound. These defense mechanisms are very useful, as unlike diurnal animals, they may be surprised by the presence of a predator and are less likely to be able to run.

Unfortunately, the strongest of the pangolin's defense mechanisms make it easier for humans to scoop the rolled up pangolin into our hands and transfer them to a bag; ready to be trafficked.

(“People for Pangolins”, 2016; “The Tree Pangolin Resource”, 2016)

### **The endangered nature of the animal, consumption and reasons:**

Two out of the eight species of pangolins are critically endangered, while other two are categorized as endangered. Pangolins are fast disappearing off the face of the earth due to human encroachment of forest lands, but mostly due to poaching and illegal trafficking. Pangolin meat is considered a delicacy in some parts of the world, and is sold at extremely high prices. Pangolin scales are also used in eastern medicine and oils, as they are attributed powerful medicinal properties (Attre, 2015; Bryce, 2015; Gandhi, 2015).

Medical research has proven that pangolin scales are made of keratin, the same material as human hair and nails, thus bearing no scientific medicinal value. Long holding traditions of cure and luck being bestowed on the one who consumes pangolin meat and scales have led to worldwide trade and trafficking. According to World Wildlife Fund (2016), all eight species of pangolin are now protected under national and international laws (“Pangolins,” 2016; Sutter, 2016).

In September 2016, countries came together at the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), to sign a global agreement between governments to protect vulnerable and endangered species from international trade and consumption (“A massive win for the world's most trafficked mammal”, 2016).

Pangolins are very difficult to breed in captivity, as they have a very specific diet and requirement of space. Pangolins rescued from wildlife trade, are kept in safe shelters for

sometime before being released into the wild. Not much research has been conducted on the pangolin, due to the elusive nature of the creature. Due to this, it has also been really difficult to estimate the number of individuals left in the wild.

Pangolins in captivity are known to follow a schedule. They wake up and defecate in a provided water body within their enclosure. Like orangutans, they are very careful about distinguishing between resting areas and defecation areas. They would usually then swim in the water before going to nearby food resources for a hearty meal. When kept in captivity, they are given a healthy balance of live ants and frozen protein. They exhibit varying sleeping patterns depending on the season, as well as the choice of location, in relationship to the water body. If the surrounding of the enclosure remains unchanged for very long, pangolins are also known to get restless and pace around their enclosure in the shape of an 8. This behavior ceases as soon as the enclosure setting is changed.

Pangolins in captivity are also known to dive in and out of the water bodies provided in their dens. It is difficult to corroborate these activities observed in captivity, with their behavior in the wilderness as, pangolins are difficult to spot and observe in the wild. It can only be assumed that they are behaving in a similar way both in captivity and when in their natural habitats. Most of these observations have been made on Sunda pangolins, in captivity (Thai, Clark, and Phuong, 2014).

Organizations like TRAFFIC, in collaboration with WWF are running campaigns and doing relentless work to help conserve the pangolin. At the same time individuals like Maria Diekmann, who runs REST, the Rare and Endangered Species Trust are individually contributing to the cause. Maria, is one of the few people to have successfully raised a pangolin. The resident African ground pangolin at REST, is called Katiti and is a huge help in developing research. Katiti is also very helpful in comforting other pangolins who pass through REST, before being released in the wild (Espley, 2014; “REST Africa,” 2016).

Apart from numerous organizations and individuals working for the cause, each of us holds the responsibility of refusing and reporting the poaching, trafficking and consumption of pangolin meat and scales. For when every individual refuses to consume or poach the animal, we would have saved a unique species from extinction.



## CHAPTER 5 | Concluding Thoughts

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## DESIGNER, EDUCATOR, INTERVENOR

During my design education, apart from being trained to use design as a my medium of trade, I was privileged to be educated within a system which promotes strategic thinking and social practice at the core of all design work. As a former professor and mentor, M. P. Ranjan was quoted by Sujatha Kumar (2015), in an article published by *The Hindu*, "Design is an investment and not an item of expenditure" (para. 4). Design practice is being looked at as a large-scale educational medium by numerous design scholars and this has been the philosophy of education I, as a designer, have come to grow with.

To be trained to look beyond a designed product and examine the impact strategic thinking and design practice could have in the shaping of minds, was a precious gift. But as uplifting this gift could be, it could also be disheartening when one steps out into the real world- where a spatial designer is often reduced to AutoCAD files, furniture heights and placement. Not to argue that each of those is not a very important part of the context and a thing I enjoy dearly, but can context be built without substantial content and intent?

From the day I arrived into the design world, I was trained with one motto: "form ever follows function". A phrase used by Louis Sullivan in his article "The Tall Office Building Artistically Considered" published by the Lippincott's Magazine in March 1896. He called it the "pervading law of all things organic and inorganic, of all things physical and metaphysical..." (p.5) (republished by MIT OpenCourseWare, 2007).

Sullivan (1896/2007) a designer and architect, looked at his profession moving towards a democratic practice where “native instinct and sensibility” would eventually “govern the exercise of” his “beloved art”. He believed that architecture would manifest into art in the “the best sense of the word, an art that will live because it will be of the people, for the people, and by the people” (p.6).

This has been the hope and premise of the design education imparted to me; and this is what drew me to the research I present here. On scholarship and its role in the design world, Ranjan(2015) wrote in the foreword for POOL, an Indian design magazine (annual volume 2); later republished on his blog *Design for India*:

Understanding design which is a multi-faceted activity is difficult since most of what is on offer as part of the synthesis is invisible in the form or performance of that offering. Design research is gradually revealing the complexity of the design discourse and strategies and values can only be made visible through detailed analysis and reflective ponderings about that very offering. Very elusive indeed. (para. 3)

Ranjan has been one among many design thinkers who have been a crucial part in envisioning the current Indian design discourse. These design educators together, have imparted this philosophy to numerous students as a means of encouraging responsible design interventions. To take the liberty of paraphrasing another professor I have greatly admired, Siddhartha Ghosh often used to say to us, “Be a designer and not a design service provider.”(S. Ghosh, personal communication, 2011).

It is against this benchmark that I have often measured every project. Not surprisingly enough, the times where I have been forced to be a “design service provider” have been the precise moments where I have questioned the integrity of my work. Eventually the conviction for discovering the intention behind my personal design practice brought me to the idea of questioning the role of ambiguity in both my work as a designer and my existence as a person.

The more I thought about it, the minuteness of my existence dawned upon me. There are numerable multifaceted things that exist, that I could never begin to comprehend. I could only hope to assimilate information to be able to propose interventions with strategic intentions. And this is where the thought of me being a designer as intervenor was born.

## 5.1 Who is an Intervenor?

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Designer as INTERVENOR (noun): a facilitator of voice and representation for those who either cannot speak, made to believe that they cannot speak or systemically not allowed to speak. (also spelt as intervener)

The aforementioned is a definition that I would like to use but to provide more context in the layers of meaning added to the word, here are some conventional definitions of the same: According to the online *Merriam- Webster Dictionary*, an intervenor is 'one who intervenes; especially: one who intervenes as a third party in a legal proceeding'.

*Duhaime's Law Dictionary* provides a more comprehensive definition of a legal intervenor:

A person who has not been named as plaintiff or defendant to litigation, or in any other has been added as a party, and who seeks to defend interests which he or she reasonably fears may be compromised or interfered with, by the result of litigation in the event of his or her silence and lack of standing before the court.

The word intervenor is also used to describe a facilitator in certain scenarios. For example the Intervener Organization at Utah State University-Ski-Hi Institute describes an intervener as:

An intervener provides a bridge to the world for the student who is deafblind. The intervener helps the student gather information, learn concepts and skills, develop communication and language, and establish relationships that lead to greater independence.

When I look at the above two descriptions, I start to wonder if maybe I see myself as an intervenor; a designer who works through interventions in a community or collective. Not because these collectives are incapable of helping themselves, but because sometimes an outsider's perspective helps reveal things we have taken for granted.

Replacing a few words for the present context, the above two definitions would be:

A person who has not been named as an immediate stakeholder, or in any other has been added as a party, and who seeks to defend interests which they reasonably fear may be compromised or interfered with, by the result of a social practice in the event of their silence and lack of standing before the collective.

or

An intervener provides a bridge for a collective. The intervener helps the collective gather information, learn concepts and skills, develop communication, and establish relationships that lead to greater independence.

These define my role as a designer and aspiring visual educator.

*to move not solely for the sake of movement,  
but to resist the dearth of an effort to move.*

*to move not solely with an intention of movement,  
but premeditation, iteration & the persistence to move.*

## 5.2 Design for Consequence

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Steven Heller(2003) starts the book *Citizen Designer*, edited by himself and Veronique Vienne, with a phrase quoting Milton Glaser, saying: “Good design is good citizenship.” This book brings together designers from various walks of life to discuss their design practice and its consequence in the larger world context. All of them have used their own lens to discuss design, its consequence and its relevance in being citizens of their country and the world.

Among other things, Heller(2003) has crafted the introduction of the book with the intention of touching upon various challenges faced by designers and design students in today’s world. He questions generalization and designing for categories of people by saying, “One design for all- would be appropriate for the classless mass society of industrial workers envisioned by early-twentieth-century social reformers”(p.5). We live in a rich reality of multitudes; which people should be willing to embrace and appreciate. What better place to start, than by handing over tools for critical thought to future, artists, designers, thinkers and change makers.

The real world holds various complexities which need to be addressed and not subjected to minimization or abstraction. Every individual has a responsibility of gauging the complexity, if not trying to completely comprehend it. I can speak for myself; trained as a designer, I refuse to hide ambiguity behind abstraction for the sake of simplicity. Because some things are meant to be complex and to simplify them would do more harm than good. As Heller(2003) so aptly said, “Abstraction, modernism’s revolutionary contribution to the visual language of art and design, further distances both designer and audience from involvement” (p.5). This is not to say that abstraction is not applicable anywhere, it is merely to say that abstraction should not be made applicable everywhere.

It is time to embrace ambiguity in all its glory, because by acknowledging the complexity of our content, we will be able to do justice to our work. Heller(2003) supports taking responsibility for the complexity of the content, instead of pleading neutrality by saying, “The most rarified design solution can never surpass the quality of its content” (p.6).

Tinker Hatfield(2017), a long standing shoe designer for Nike, talks about his process of dealing with content in the Netflix series *Abstract* (S01E02).

Any form of art or design is not simply a drawing exercise. A lot goes into each piece of design, a shoe in Hatfield’s(2017) case, who says, “So it’s not just scribbling on a piece of paper and coming up with a design, it’s a lot of effort that goes into trying to be meaningful.” For him, “in a lot of ways, design is about predicting the needs of the future”. Whereas for me, design is about ascertaining the future in relation to the present and designing for it. For the future is never devoid of the present, as the present can never be rid of the past; my job as a designer is to flit between the three to successfully observe and meaningfully react.

The above were instances of designers building a case for foreseeing consequences. But it is important to note that often design can also be used to create a not commonly desired impact. Heller(2003) uses the example of promoting habits like smoking (p.6). What is a good consequence of the design then? Is it more people smoking or is it the design being unable to convince more people to smoke? This is a conundrum, which each designer has to answer for themselves and not be judged for.

Also it is important to note that not all design meets its intention, but does that mean that the design wasn’t successful? On some occasions, people design with one intention, but the impact could be positive, yet on something completely different. As an example for this, I would like to share the story of Mr. Bliss as told by produced Tim Howard on *Radiolab* (S11E03, 2012).

After surviving a Nazi camp, Charles Bliss, designed a sign language called Bliss Symbols with the intention of obliterating war. But instead of the intended impact, the language was accidentally discovered by Shirley McNaughton, who teaches children with cerebral palsy. These children who were previously unable to express themselves, now had a language they could create complex phrases in. They were now capable of sharing

their emotions and thoughts. McNaughton and her team, decided to further expand the language, to provide a larger vocabulary for the children. All of this was much to the language designer's dismay, who ended up extremely disappointed that his language was used for something completely unrelated to his intention.

To each their own, but if it were me, giving children with cerebral palsy a chance to communicate, would be a benchmark for a successful sign language. For Mr. Bliss, the measure was universal use and eventual peace.

I hope these examples illustrate that designing for consequence is not a fixed goal to be achieved. It varies from person to person, and each of us has to pick our own measure of consequential impact. There can be no one unit or yardstick, because then we would be unjustly categorizing all designers under a single assumption.

Having said this, the imminent question arises: "What is my measure of design for consequence?" There are many ways of answering this, but I choose to share some of my thoughts and inclinations as I did in the first chapter of this book. These paragraphs are not crucial for the reader to understand the larger context of the thesis, but would help understand my connection to all of my writing, so far. If the reader so chooses, they may move onto the next section of this chapter.

As an individual and designer, my problem is with invisibility; especially instances of forced invisibility due to categorical exclusion. Either entities are not allowed to show their true selves or they choose not to. My work strives to create awareness by making visible, by creating discussions, by impeding the inclination of being invisible- in any form.

My ulterior motive is for design to stop being an obscure elite method of thought and instead encourage emotional and systemic thinking in everyone. So if my design work were able to instigate critical thought about forgoing assumptions and embracing entities in their ambiguous forms, I would consider my design work to have been of consequence. My privileged education has helped me unlock the capacity to strategically perceive problems and surroundings; it is a part of my responsibility to try and create systems for others, to help build pathways to such cognition.

But apart from weighing the consequence of a design intervention, I must address my outsider status in most communities or collectives? Why should I be handing out ambiguous existence as a solution? Should I only be allowed to intervene as a long standing member of the community/collective?

These are perplexities, I cannot answer in their entirety, but here I share my take on the problem: I do not belong to any community or locality. I never lived in places I could have belonged to and I belonged to places that I could not have lived in. Does this mean that I should not work with either community or should I work with both? Either could be argued with substantial reasons. For me, every new project is an opportunity to learn and grow both as an individual and as a newly inducted member of a community. One should not trespass hospitality, but gracefully position oneself, to be able to give back- even in the smallest way possible. As long as one enters a community without complacent thought of superiority and is humbly ready to absorb before handing out solutions; one should go out there and be ready to both give and take.

I see myself rooted in my work and my desire to be able to expand my knowledge. Working in local communities is a selfish act. It gives me a chance to continuously absorb and learn; everything I learn is a strangely shaped jigsaw piece. One more block added to many; which over time will help me make better sense of the world.

Semblances aside, if design could use educational means to encourage independent thought and curious imagination in people, we would have contributed to a movement of sustainable practices. Long have people been forced to believe that they cannot solve their own problems, and that they need someone to help them; design and education put together have the potential to address this perceived helplessness and encourage democracy of thought.

### 5.3 Education for Resilience

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To understand the larger effect of designed narrative and visual education let us start by looking at a very global idea of human. If other species were observing us and trying to make sense of it all, humans would seem like a very curious existence; and human behavior, a repertoire of happenings and changes. We function individually but almost like a giant organism of activities spanning the globe. Our interconnectedness has made life easier, but also brought upon us unforeseen responsibilities. We now need more vigilance and awareness, because individual and community actions have faster ripple effects than ever before.

“In teaching, these issues must be raised from the beginning for the design student. This is not something to spring on the advanced student after their attitudes have been fixed on neutrality”(p.7) said Heller(2003) in the introduction of the book *Citizen Designer*.

As individuals we like to believe that we perceive everything around us with neutral clarity and fairness. The illusion of being conscientious, is probably what keeps us going. We all have our own set of beliefs and rules, which help us go on with our jobs and lives. But underneath all this, there exist a set of unconscious, subtly layered biases which we fail to notice and acknowledge. Most of these biases were inseminated in our collective imagination by years of careful instigation and design. If biases were originally willed into being, then maybe design can reverse engineer our collective conscience into acknowledging these biases and addressing them. For by pretending they don't exist, we might be doing more harm than good, to this interconnected giant organism we call the world.

Nosek, Greenwald and Banaji(2007) are psychology researchers who wrote a chapter on The Implicit Association Test at Age 7 in the book, *Social Psychology and the Unconscious: The Automaticity of Higher Mental Processes*. Through observation and scientific data collection, they were able to demonstrate that children as young as 7 years of age have imbibed implicit biases associating assumptions with gender (pp.267- 286).

A parallel research on Implicit Attitudes in very Young Children published by Thomas, Smith and Ball (2007) appeared in a journal *Current Research In Social Psychology* (Vol. 13, No.7); which utilized an adapted version of the Implicit Association Test (IAT). They conducted their research on 100 three to seven year olds and concluded that “IAT adaptation is effective for very young children, with potential for attitudinal research in preschoolers, and that the “thin idea” is internalized at an early stage of development” (pp.75 - 85).

The above two instances of research demonstrate the impressionable nature of a young human mind. Educators have the responsibility to address this and design educational systems, to build an understanding of the biases we accumulate as we grow up. As educators working with the medium of visual education, we have the added benefit of getting people to care beyond simply knowing.

Elizabeth Kolbert(2017) a long standing staff writer at *The New Yorker*, has summarized numerous scientific studies in her article, Why Facts don't Change our Minds. Taking us through various studies, she builds an argument that, humans don't change their minds if simply presented by facts. This is where designed visual education could come to the rescue. If humans cannot change their mind through facts, we could develop resilience against imbibed biases through emotional investment.

Dr. Eugenia Cheng(2016), the Scientist in Residence at the School of the Art Institute of Chicago, describes herself as a musician, fascinated by mathematics. She aspires to give people a chance at understanding the beautiful world of mathematics through her work. Interviewed on *Why Math is Magic* by Nerdette on WBEZ. She explain how people often reject mathematics due to the teaching techniques implemented in school. She believes mathematics is like baking, there are no yes or no answers. It is a creative process and everyone is capable of enjoying it, only if they were told not to follow a strictly “fixed set of rules”.



She encourages her students at the School of the Art Institute of Chicago to look at mathematics as pure creativity and logic. She insists, if we follow our own make believe logic, we should be able to prove it mathematically. And if not, our make-believe universe “implodes on itself” and then we “try again”.

While Dr. Cheng uses art to teach mathematical and philosophical concepts, Jyoti Thyagarajan looks at creative learning as the missing piece in the Indian education system, which insists on the capability of solving mathematical equations as a measure of success.

Thyagarajan (2015), founder of Meghshala, has been an educator for over 40 years and now uses her expertise to train teachers and educators through a cloud based platform. She believes there is more to education than solving mathematical problems and in her interview with the team of *Look at Us*, an organization working with underserved urban youth she said, “There is a lot more to educating a child than just equations. If the kids leave just knowing quadratic equations my job is half done.”

She talks about using creative education as a tool of introducing a “sense of self-worth” and “sense of centeredness” for the children to receive “a complete education.” For her, there are “many things (that) go into being what a person is” and that educators, “little by little we complete the pieces that we’ve never taken care to complete up until now.”

Creative education helps build a connection to the world and it’s myriad components, which together educates a generation for emotional and social intelligence.

Conventional education gives us information and information is often mistaken for intelligence. But as said by Thyagarajan (2015), children deserve “a complete education” and our traditional educational system only taps into their ability to learn. These systems of learning have to be scaffolded by systems of thinking, understanding, connecting and investing.

Daniel Goleman, a psychologist and science journalist, republished a version of the prologue to his book *Social Intelligence* (2006) on his blog. Building on his previous

work on emotional and social intelligence, Goleman(2006) says, “The most fundamental discovery of this new science” is that “we are wired to connect.” This ability to connect with each other, is what could help amend our methods of constant categorization and building assumptions.

Maija Vanhatalo(2007), wrote the article, From Emotional Intelligence to Systems Intelligence, published in *Systems Intelligence in Leadership and Everyday Life* by the Helsinki University of Technology. Among other things Vanhatalo(2007) has discussed emotions as “the infrastructure of social life” and that everyday life could be impacted by developing our collective emotional, social and systems intelligence (pp.145-153).

Elucidating the same, Freire(1970/2005), wrote in the *Pedagogy of the Oppressed*:

In problem-posing education, people develop their power to perceive critically the way they exist in the world with which and in which they find themselves; they come to see the world not as a static reality, but as a reality in process, in transformation. (p.83)

Throughout his book, Freire(1970/2005) has built a case for understanding oppression as a result of categorization and assumption and has hoped that his work helps in the “creation of a world in which it will be easier to love” (p.40).

As a visual thinker, I too hope to build a niche in the design education world, addressing collective systems intelligence by creatively pushing the limits of awareness leading towards sensitization. If we could build aware, sensitive, receptive and responsive social systems, they can go a long way in altering perceptions and assumptions, transforming larger world problems, one bit at a time.

## 5.4 Intervention for Change

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To understand the impact of a well placed intervention, let us momentarily come back to the pangolin and the possible change brought about by a children's book. Let us imagine the following conversation taking place at a Vietnamese restaurant:

Mom to her 8 year old son: *"Hey, let's try this dish, it says it is a special delicacy. And look at the price, it must be worth it."*

Son: *"Oh really Mom, that sounds interesting. What do you think it is?"*

Mom: *"Let us ask one of the servers."*

Server: *"A very good choice ma'am, it is our specialty, you must try this. It is a small anteater, I believe it is called a pangolin in English."*

Son: *"Mom, wait, we cannot eat this. Our teacher read us a book about the pangolin once. It is one of the most endangered species on the planet."*

...and the child goes on to explain.

Let us now imagine this conversation happening on hundreds of tables around the world, it would definitely have some potential for change. It is said that, historically when people in Europe refused to believe the germ theory, children in schools were taught to use soap so that they could take the learning back into their parents' household. Over the years it worked, the mortality rates dropped and many rampant preventable diseases were curbed. The same could be true for saving the pangolin. A children's story has the potential of instigating long term change and I am willing to try.

There exist two other children's books on the pangolin, but both, with a different intention. *What on Earth is a Pangolin?* by Edward R. Ricciuti(1994) is aimed at an audience of middle schoolers, whereas *Roly Poly Pangolin* by Anna Dewdney(2010) is aimed at a similar age-group audience as mine. The latter is a very well told story, with beautiful narrative visuals. Although for a similar age group, Dewdney(2010) has used fictional happenings which do not necessarily adhere to the animal's known habits; while my aim was to create a narrative incorporating currently recorded characteristics.

*Roly Poly Pangolin* is an endearing story overall and definitely serves the purpose of developing pathos, but comes at a cost of the complexities of being a pangolin. I intended to go a different way: instead of simplifying things, I wanted to leverage the ambiguity of a pangolin and its existence to create awareness. For I agree with Jeff Schwartz, whom I met at the Future of People conference, at the MIT Media Lab, "The world is not going to get less complicated, we need to be better explainers"(J. Schwartz, personal communication, December 3, 2016).

My intention is not to stir a debate over meat consumption, it is instead to develop a concern for the invisible, deemed to disappear by the entitlement of one species over another. An entitlement so strong, that we are physically eating its existence away. And what better place to bring forth an intervention for change, than the hearts and minds of children. As Parker (2017) quotes Felix Finkbeiner, a teenager speaking at the United Nations General Assembly, in her article for the *National Geographic*, "For most adults, it's an academic question. For many of us children, it's a question of survival. Twenty-one hundred is still in our lifetime" (para. 4).

For me, the pangolin is hopefully, the first of many projects to come. I intend to contribute to social and ecological change through redefining reductive narratives.

Small educational interventions have the potency of long term impact, and as designers, we have the responsibility to strategize for the future and develop an intrinsic understanding of any concern before suggesting interventions for change.

Once we have set ourselves up for it; being a designer, educator and/or intervenor simultaneously may seem like a daunting task. I might not have been convinced of this possibility, if I had not had the fortune of meeting Jan Baker, a graphic design professor at RISD. She has been effortlessly juggling between being an artist, designer, collector, educator, explorer, intervenor; all at once. She has been educating and inspiring students for more than three decades now.

As an educator, Jan encourages students to probe within themselves for passions and interest. She believes in layering design work, books, typography, prints or any kind of creative work with a bit of ourselves and our drive.

In her own words: "I think that if there is something you have a passion for, that it is deep down inside of you and needs to come out as a story", she thinks a book "is the perfect venue for it" (J. Baker, personal communication, November 15, 2016).

When asked to elaborate on the book as a designed educational intervention she discusses the materiality of a book, and goes on to say, "And then of course there is content, how wonderful is a book that it takes you into a whole new world of magic. Takes you away from where you are and gives you information."

The above are excerpts from a much longer interview with Jan, conducted by me, shortly after I arrived at RISD. Between discussions of being an artist/ designer, working with books and visuals, cultural differences and language barriers, there were many instances of resonance between her work and my intentions of being a designer, educator and intervenor.

I would like to close with a particular philosophy shared by Jan, that has had a significant impact on all my work since, "the main thing about teaching is really trying to get students to be passionate about something and curious. I think if you are curious and have passion, that's the most important thing." (J. Baker, personal communication, November 15, 2016).

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## EPILOGUE

Dear reader,

I thank you for accompanying me on this whirlwind journey of discovering ways of looking at classifications and interpretations. Having moved through visual modes of abstraction, minimalism and association, I have tried to build an argument for embracing complexity and ambiguity.

I perceive myself as a narrative and strategic designer; I intend to put my expertise to use across mediums in the hope for change. Education is a term with many connotations and encompasses various fields and specializations. I find myself being reluctant to take on the label of an educator; I prefer being a designer working towards disseminating educational interventions.

All of us with access to this thesis research and book, would perceive ourselves to be 'educated'. But truly it is 'educated', in only one or more fields of choice. We maybe 'educated' but not always fully 'aware' and 'conscious'. These are two fields of human altruism which are overlooked by most of our educational systems. Our belief in being 'educated', albeit in a certain specialization, often blinds us to the connections we and our work share with the rest of the world.

My work hopes to reintroduced and rebuild sensitive perception through creative research and educational strategy design.

That being said, we all, including designers, educators and intervenors alike, must relinquish the assumption that our practice will save the world. For if we hold on to that delusion, we would not be much different from Pernety as quoted by Stafford(1993) in *Body Criticism*.

Here I keep my promise by repeating this phrase, "Ordinary human beings were everywhere accustomed to being duped by a face" (p.88). implying that physiognomists believed themselves to be the experts and wanted to save others from "the misleading ways of the world (that) could unravel this "chaos" of seeming" (p.87).

Sooner or later we will discover that none of us are experts at everything, we are all in one way or another, "ordinary human beings" co-inhabiting this "chaos of seeming". Instead of futile attempts at unraveling "the misleading ways of the world" (pg. 87-88), maybe we could simply embrace them as is and traverse through them, instead of around them.

Design has come to be seen as an all encompassing word which solves problems. Design has to stop being an elite practice, executed by and accessible to only a few. Designers and design educators should aim at a social scenario where there would ideally be no more need for design, for every individual would be capable of critical and strategic thought. This can be achieved to the closest possible proximity by empowering and encouraging young individuals to exercise their emotional, social and systemic intelligence.

For the future will then be built of aware, sensitive, receptive and responsive individuals, who would all be designers, educators and intervenors in their own right.

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