Digital Animation as a Method of Inquiry

Thesis

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By

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Abstract

The potential for artistic practice-led research opening up new “realms of possibility” has been embraced by the academy, and it is the time now for animators to reveal how their practice is a method for the generation of new knowledge, exploration, and connection of ideas as well as for communication (as it is most commonly conceived of). Traditional views of research writing do not serve the wealth of knowledge to be found in the making process of animation. My goal is to illuminate the notion that the self-reflective creative practice of digital animation used as a method of inquiry contributes to both the field as well as the academy overall. Animation as a method of inquiry can be seen at the heart of many experimental and independent creations throughout the art form’s history, as well as in the present. I frame my discussion by highlighting inquiry in the works of animators both historical and contemporary to bring to light how these methodologies are functioning in the medium. Inspired by the concept of ‘practice as research’ in arts education discourse - I present a case-study analysis of my digital animation practice and reflections on my experience as an animator, a designer, and a researcher in animation. I claim that animation as inquiry requires the artist-researcher to engage in a reflection throughout their making process. From retrospection and contemplation of my own creative practices, I describe how writing has become an integral part of my animation process – but I also argue that writing is not a requirement for animation as a method of
inquiry. The process of making animation captures our ways of knowing in a way that is unique but just as valuable as writing, as long as the researcher can articulate it. Valuing the ‘messy texts’ that are generated as by-products of the creative process is one of several practices I suggest to highlight the discovery process involved in the making of animation. I expand upon the anthropological term ‘messy text’ to include both visual and words generated during the thinking and making processes. With writing being the privileged medium in academia, my research begins a conversation on the ways in which reflective thinking and writing are incorporated into Animation, Art, or Design programs. Animation as a method of inquiry will help to make our world visible through representation and interpretation, and if animators consciously reflect and contextualize their work, we can gain a better understanding of some of the infinite perspectives that construct our collective reality.
Dedication

This document is dedicated to my endlessly supportive family.
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Preface

It’s hard to pinpoint exactly when I became interested in this topic - *thinking about thinking; thinking about making; writing & making intertwined* - but looking back through the stacks of messy notebooks logging my graduate studies, I find small tracks apparent only to a retrospective eye. Though sometimes these tracks are obscured by insecurity, naivety, and novice at the time, the ideas are there - embedded in all of the diagrams, project blogs, and scribblings in margins - the physical manifestations of my thinking.

I feel a similar sentiment when looking back at many of my animations and creative works - that there was embedded meaning and underlying importance not yet visible to me at the time I created it - but uncovered through my writing, looking back, and observing connections at a later time. Steve Jobs spoke to my feeling on this in a 2005 commencement speech at Stanford University saying that,

“Of course it was impossible to connect the dots looking forward when I was in college. But it was very, very clear looking backwards ten years later. Again, you can’t connect the dots looking forward; you can only connect them looking backwards. So you have to trust that the dots will somehow connect in your future. You have to trust in something — your gut, destiny, life, karma, whatever.
This approach has never let me down, and it has made all the difference in my life.” (“You’ve Got to Find What You Love,’ Jobs Says.”)

Animation is a reflective practice. There is artistry in the creation of these moving images that cannot be separated from the artist who created it - and self-reflection on the practice of creating animation, for me, has proved to be the most rewarding aspect of my process.

It took me two and a half years, or 7 grad school semesters, to really understand what research could mean in this field of design and animation. I rejected the term ‘research’ because it was unknown and foreign and resented the formal requirement of a thesis paper in my degree program. I felt constrained by the precedents of what a thesis project/paper was (precedents that had been created simply through waves of students each simply following the formats and approaches of those before them) and through my first several years, I tried again and again to fit my interests into something that matched that template. I wasn’t satisfied with the trend of making an independent film project and then afterwards attempting to write a paper that could translate rich, kinetic, animation work into static text on a page. I knew that there was something about animation that wasn’t being served by the current traditions and notions of research in academia. I did not yet recognize that I could reimagine or define for myself what ‘research’ meant in the Digital Animation MFA program - and definitely did not have the confidence to break from the dogma of an animation thesis project - I did, however, recognize this discrepancy in trying to capture what is uncapturable about animation in writing. I wanted so strongly to understand and to contribute to an art form that has given so much
to me throughout my life. I felt that need for a balance between the theory and the practice in my work.

I may be an outlier in saying that I *enjoy* writing and thinking about making as much as, if not more than, making itself. Project reflection and documentation always came as an easy and enjoyable part of my process - and I found (or created) for myself more meaning in my work often through writing about it during and post-creation. I enjoyed thinking deeply about the work of others - picking apart their influences, references, aesthetic and structural choices. It wasn’t until a class on ‘Re-imagining Research Writing through Creative Inquiry’ that I felt I really received that permission to pursue this kind of introspective look at my creative process, and that of others, in my field of animation. I was introduced to the likes of Laurel Richardson, Elizabeth St. Pierre, John Creswell, and Anne Lamott - each of whom spoke words that resonated with me on writing and practice within the confines of research. These voices validated my interests, commiserated with me over my struggles, and showed me that delving into this cognitive side of making, which I found to be so interesting, really was *thesis-worthy*. These readings showed me how I could make a contribution in the field I have been so passionate about (but so aimless within thus far) by tugging at the threads which I found intriguing about my own work.

Later in that same commencement speech I have already drawn upon, Steve Jobs says -

“And most important, have the courage to follow your heart and intuition. They somehow already know what you truly want to become. Everything else is secondary.” (“You’ve
Got to Find What You Love,’ Jobs Says.”) Receiving this permission from the scholars I was reading, whom I viewed as the “authorities” in research, allowed me to finally listen to my intuition and pinpoint where my heart was in this process. I have realized the need for a study that highlights the value and contribution of a self-reflective animation practice as a form of inquiry.
Chapter 1: Introduction

A creative life can be conceived of as an existence between three states: thinking, making, and doing. An artist must find a balance among the three in order to create successful, affective, and inspiring works. Thinking is just as it sounds - contemplating the world around you, ideating over potential projects, drawing connections between what is seen, heard, tasted, and felt. But spend too much time thinking about creating before you let yourself do it and you will never have time to make anything. The making state, most obviously, is the physical artistic activity of manipulating a medium during the creative process. Doing - or going out and experiencing the world around you, observing the work of other artists, reading, studying, talking, and experiencing - is a crucial part of the triad as well. Without doing, you may struggle for inspiration or find your work lacking the element of personal narrative that draws connections with the viewers who interact with the work. Following the notions of John Dewey in Art as Experience, thinking must happen throughout the creative process - if you are not reflecting upon your making, you are not really processing. Working as an animator, I myself have discovered both the need for and the struggle to find balance between these three states of working in my own practice. I have realized, through my creative process, that these states are not mutually exclusive. They often happen at the same time, and in my research I investigate the overlap between thinking and making in the creative practice of digital animation.
My goal is to illuminate the notion that as a form of inquiry, self-reflective creative practice of creating animation can be indispensible to the field of animation as well as the academy overall. Animation is a tool for the generation, exploration, and connection of ideas as well as for communication (as it is most commonly conceived of). I believe there to be a wealth of knowledge in the making of animation that cannot be made known to “outsiders” through traditional views of research writing. Because of this, there is a need for integration of the making and writing processes to bring to light the understandings embedded in the artistic process itself.

Computer generated animation, an art form with a relatively short but rich history, is inherently bound by technological limitations of the medium. Costs for equipment, rendering, and man-power have influenced the pipeline for creation of digitally animated works of art. As a result, there is typically an extensive pre-production phase which goes into the making of these films; that is, quite a bit of thinking before any actual making. That is not to say that pre-production artists are not ‘making art,’ but instead I mean that from concept art to storyboards and animatics, much of the creative decision-making in a studio setting happens well before the production of the digital animation itself. For independent animators as well, there are often large costs involved in the creation of a film and thus much forethought into the proposal and planning of a project. There is a distinction to be made between the goals of commercial and independent animation - but regardless of this difference, there is a void in animation literature in general, that addresses the creative process and experience of the animator. As computers continue to get faster, software more widely accessible, and overall costs for creation decrease, we
are entering into a period in animation history with increased potential for digital animation as a method of inquiry.

I use this phrase in reference to Laurel Richardson and Elizabeth Adams St. Pierre’s “writing as a method of inquiry,” a concept which emerged in the field of arts and humanities as a way to use writing as a research tool in it’s own right. (Richardson 1) Richardson rejected traditional teachings “not to write until I knew what I wanted to say,” citing this mindset for the lack of diversity and creativity in qualitative research writing. (Richardson 1) Writing as a method of inquiry directly challenges traditional views of writing, aptly put by Jane Speedy as “a kind of mopping up process at the end of an otherwise apparently completed study,” by allowing the writing to be explorative, engaging, playful, and experimental and to happen as a part of the thinking process rather than an appendix to. (Speedy) Writing as a way of knowing, thinking, and problem solving is a concept used by many, even those working outside of the realm of writing.

“Flannery O'Connor (1985) says, "I have to write to discover what I am doing. I don't know as well what I think until I see what say; then I have to say it all over again" (p. ix). There is no getting around it. We write to know. We write to learn. We write to discover" (Ely 570)

Digital animation and interactive media have established and proven themselves as a tool for the communication and expression of emotion and ideas - but what about a tool for thinking? How are artists and designers challenging the notion that the states of thinking...
and making in the creative process happen separately? How are they using their practice in ways to question, draw connections, and generate new ideas and knowledge? If we begin to understand that our practice can be a research tool to think, to know, and to discover - we create, as Richardson describes it, “a condition of possibility for producing different knowledge and producing knowledge differently.” (Richardson 969)

Inspired by this concept of ‘practice as research’ in arts education discourse - I aim to present an analysis of my practice and reflections on my experience as an animator, a designer using animation, and a researcher in animation. The goal is to reflect on the worth of animation as a form of creative inquiry. This study is an introspective interrogation of my practice situated from my location at the intersection of art and design, framed by my personal narrative of experiences, education, and ways of knowing. I also aim to write this research in conversation with artists working in animation, qualitative researchers working in the arts, and scholars intertwining writing with their creative practice. I explore terms like metacognition as they may function in ‘animation as a method for inquiry’ - but do not claim to present an in-depth treatment of these topics. I propose this idea of animation as a method of inquiry in hopes that it may bring to light the need for recognition of animation as scholarly work and inspire more research into this essential direction.

In the vein of qualitative research, I feel the need to define myself as the tool with which this study is being conducted. My personal background - education, practice, insights, and history - are each inseparable from my work and research. They create the lens
through which I view the world and construct my reality. I do not claim this research like a child conceived solely on my own, because it is but the result of the ideas and voices of many being woven into conversation and reflected through my personal voice and experience. As an animator and an academic, I seek to uncover and communicate what knowledge I can on this topic which I have found to be lacking in current literature on animation. Focusing on my three years of study in a practice and theory-rich program in Digital Animation as a pseudo ‘case study’ - I am taking a self-reflective and critical look at my artistic, thinking, and writing processes to shed light on a mode of inquiry that I see happening in animation but going relatively unrecognized in the world of academia.

Who Am I?

I came to the Digital Animation & Interactive Media MFA program directly upon finishing my Bachelor’s degree in Computer Science & Engineering at The Ohio State University. Studying at the renowned interdisciplinary research facility that is the Advanced Computing Center for the Arts and Design at OSU exposed me to students of many different educational and cultural backgrounds - all brought together by our common interest in digital animation & interactive media. This diversity is something that made me conscious from the start of how my background greatly influences how I approach the task of digital animation and qualitative research in my current location within the arts and design - and how my approach varies from that of my colleagues. Pulling from the fundamental concepts in computer programming, I developed a way of ‘algorithmic thinking’ that carries over into all aspects of my life. I try to reframe larger
problems as a sum of smaller, more manageable pieces - and to create solutions through interweaving past experience with the ideas of others and new discoveries of my own, an approach which can be seen in my creative work as well. As I began my studies in the Digital Animation program - I created several short experimental projects, exploring personal style and the overall process of generating 3D animation. As I worked, and created ‘final’ pieces I categorized them in my mind as either “successes” or “failures.” The real failure, however, was my failing to consciously recognize the inquiry happening in my practice and the potential for knowledge gained in each experience and conversation with my medium. Working as a Graduate Research Assistant throughout my studies exposed me to and involved me in several collaborative interdisciplinary research projects using animation, interactive media, and design as forms of inquiry. These experiences peaked my interest in really looking at the creative process - the thinking & feeling and approaches we take, the constraints we do or don’t enforce upon ourselves, our influences and inputs - and how we can make that visible. As I continued my work, practice, and studies I became increasingly aware of the kinds of knowledge, experience, and creative inputs that animators are pulling from in this artistic process. I realized that making cannot simply happen in a vacuum and I began to take classes and experiment in other fields. I worked with creating and editing live-action videos and learned about foundations in photography, all in an attempt to build up a bank of knowledge that would inform my work with animation. These new insights helped me to develop a rounded view of creativity and to begin working in a more self-conscious and reflective state. There has always been much room for flexibility in my process as I worked through my animation projects - learning, making discoveries, and adapting my approaches along the
way. I always tried to take a two-pronged approach to creating in building my creative expression and technical skills as an animator while also improvising as a designer to reinterpret information and find new ways of communicating. My working journal from past projects has become an indispensable part of my research, because in it I created images, charts, and tables to document my process. I attempted to make my thinking more clear by articulating it through graphics and by organizing information in various ways. By consciously reviewing my work during the creative process, I documented and visualized my methods and approaches, my successes and failures, and how I broke up and tackled problems in unique ways. I look back on these journalings as a “documenting becoming” - to borrow a phrase from dance scholar Vida Midgelow - because I see the threads of metacognition growing in my work and can trace the emergence of my research. This awakened awareness that developed over the past few years allows me to now write in conversation with myself - the various stages of understanding of myself as an animator during my graduate studies. I use these journals, projects, and writing done by the many ‘Malory’s of the past as the script for this discussion. What I wish to do with my research in animation is to make my ever-changing approaches and evolving creative process visible through writing, design, and animation and to use this personal account to bring to light the inquisitive happenings in the process of creating animation.

In writing this research paper, it has become even more clear to me that learning is a never-ending process. Richardson references Greek philosopher Zeno’s paradox of an arrow which never reaches its destination, which I can relate to my new understanding that learning is meant to change you. Contrary to memorizing and regurgitating facts, true
and honest ‘learning’ adds a new facet to one’s concept of reality; a new prism in the crystallized multi-dimensional structure that is our understanding of our world. I present this research on ‘digital animation as a method of inquiry’ from the stance that new modes of thinking and models of inquiry will yield fresh and innovative knowledge. This paper next presents a brief background section framing the discussion and encapsulating some relevant history of animation practice and theory. I then attempt to define animation as inquiry using several main tenets of qualitative research, as it is commonly defined. The following section assesses the need for recognizing animation as a method of inquiry and the potential contribution it holds in numerous fields of study. Next, I discuss the dialogue between writing and making in the creation of animation. I wish to challenge traditional views that writing is solely the means for interpreting and representing our artistic work and to suggest a symbiotic relationship throughout the creative process of these two veins of expression. Digging into what digital animation as a method of inquiry might look like, I discuss the work of artists in animation and interactive media, the writings of scholars in outside creative fields, and my own experiences as an animator and designer in practice. And finally, I conclude by looking to the future - what this means for the art form and production pipeline of digital animation and suggestions for future research into this topic.
Chapter 2: Background

My campaign for appreciation of ‘digital animation as a method of inquiry’ first requires some framing of the discussion - a relevant history of animation and its production processes, an overview of the ‘practice-led research’ concept applied to art and design, as well as a survey of the current - however limited - writing on the topic of animation practice as research. I also wish to frame my discussion by highlighting animation as a method of inquiry in the works of animators both historical and contemporary to bring to light how these methodologies are functioning in the medium.

Defining animation, practice-led research, and approaches in art & design

Animation is an elusive form that has faced a history of difficulty in determining an overarching definition. The Centre for Animation and Interactive Media at RMIT University makes an important note on their ‘What is animation?’ page that “Animation precedes the invention of photography and the cine-camera by several decades.” (“Animation Introduction”) Animation is a timeless and agile concept which has its roots in the likes of parlor-game toys of the 1800’s, doodlings on the corners of notebooks, as well as some of the most popular films of all time. The changing face of technology and shifting perceptions of film, with increasing presence of CGI and visual effects, have
made encapsulating animation in mere words a challenging task. Think about how you define animation? If you are like the majority of the American public you might use phrases such as ‘cartoon,’ ‘for children,’ or ‘hand-drawn.’ The problem with these terms is that they limit the medium - whether by restricting it to only one genre, one target audience, or one technical means of creation. Paul Wells discusses in his article, “Animation: Genre and Authorship,” the popular notion of animation as a predominantly ‘cartoon’ medium because its dominance in this aspect of the American film industry has seemed to overshadow other uses, styles, and independent animation in the United States. (Wells 2) A troubling point that has persisted since before Wells wrote about it in 2002 and continues through today - the tendency for the public to view animation as a genre rather than a medium for expression.

Animation is in fact a broad and versatile medium, capable of doing any genre from children’s films to horror to even documentary. Animation is authorial - self-reflexive of its creator - because of the frame-by-frame nature of control the animator exercises. It is inherently time-based but also allows for expansion, compression, and transformation of the axis of time. There is a narrative, “story-ness” to animation (it is important to note that the narrative can occur anywhere on a continuum from mimesis to abstraction) that allows for representation of the world in ways unlike any other medium. To create animation is to essentially start with nothing. An animator creates 24 still images, or frames, in order to generate one second of movement, time, and life. To animate literally means to bring to life. The power in animation is that it can visualize the invisible and bring to life that which is only alive in the mind of the artist. Animation can visualize
thoughts, feelings, and experiences through abstraction or simplification. While the film camera records what exists in the current reality, animation can go so much farther by creating a new reality. Animator John Hubley describes the strengths of animation saying, “... We're confronted with such massive, serious problems as a society, on a world level, that animation as a medium of communication can deal with the abstractions of these problems that a camera can't.” (“Animation Introduction”) John Hubley and his wife Faith created many independent animations together in the 1950’s and 60’s breaking from the norms of cartoon animation at that time both stylistically and conceptually. The Hubleys used animation to explore topics ranging from social issues, such as war and urban development, to the spirit of childhood. There must be a balance in any kind of animation between both artistic ideas and technical skills needed to work through creative challenges. This symbiotic relationship is captured in a quote from Pixar co-creator John Lasseter that, “Art challenges technology and technology inspires art.” (Holian) In digital animation, because we are using software - virtual tools and digital pixels - as our medium, we are naturally constrained by the properties of these materials (which are relics of our tools being created largely by engineers and scientists.) We often find ourselves having to conform to thinking within the mindset of a software designer - using their provided set of utensils to solve our very unique problems. But - when those tools are lacking, or we find that they can’t provide the flexibility or capabilities we need to achieve a specific goal - digital animators are also tasked with thinking outside of those existing constraints. Animators sometimes have to cultivate knowledge to ‘hack’ the software provided in order to make it think like we think, and create how or what we want to create. Animation is a challenging, nebulous medium to work within - there is so
much freedom as well as struggle involved in working both within and outside of the constraints of the technology. In independent animation there are no ‘correct’ ways of doing things. This problem-solving culture contributes to the multitude of approaches, styles, and techniques that can be seen within animation as means for artistic expression, working through thoughts, and presenting information.

The creative process in animation, which encompasses an indeterminate number of approaches, is largely impacted by the production constraints dictated by the medium. The struggle of working with developing technology, as well as creating all that will be seen from scratch, in order to make a unique animated film has steered artists to work within an ‘economy of means’ model. Within an economy of means, because they are so costly, the maker strives to use materials and time most efficiently - which in turn encourages innovation and knowledge sharing amongst peers. These aspects can be seen quite clearly in the animation community. Working within a standardized animation production pipeline, commercial animation studios have historically created works of lasting, undefeatable quality. But in this case, as Esther Leslie puts it in her book *Hollywood Flatlands*, monopoly by the large commercial animation studios has “turned culture into industry.” (Leslie 133) From this mode of creation, there has grown a mindset of *scarcity* rather than *abundance* within the attitudes of the artists. There is an underlying conviction to ‘only make what you need,’ because of production and time costs - and this has not encouraged the use of animation as a method for exploration and inquiry in the commercial setting. But consider what could happen when you start to make to understand? - Knowing that not everything will be used, included in a final
‘product.’ Lower costs and faster technology are helping large animation studios to warm up to this idea now, which has been present in independent animation from the start. For example, at Pixar - Teddy Newton, concept artist and director, is quoted as saying “I realize now that almost 90 percent of what I do may never end up in a movie, but it may springboard other people to come up with the solution.” (Holian) That statement shows a beginning to recognize the power of animation as inquiry and a shift towards emphasis on process, even if the creative works made don’t end up in the final ‘product.’ But change will not happen at the big commercial level quickly. Not while that industry is still driven by economics and box office success. First it must start with embracing the idea of animation practice as research at the academic level, then moving to support for independent artists experimenting with these ideas.

Since the early 1990s when the concept of ‘practice as research’ was forming in academic discourse, there has been a recognition of the difference - and the value in the difference - between scientific inquiry and inquiry involved in making. ‘Practice-based’ or ‘practice-led’ (often incorrectly used interchangeably) research is the term given to the kind of knowledge generation processes carried out by makers - artists, designers, musicians, writers, and so on. The distinction between practice as research and pure practice lies in the goals of the researcher, seeking to add to the shared body of knowledge rather than individual particular goals. (Candy 2) In scientific inquiry, there is a defined and determined methodology followed by researchers. The flexibility and multitude of approaches in creative practice, however, necessitated a discussion about (and highlighted difficulty in defining) methodologies for practice-based research. In these
early conversations establishing practice-led research, the tendency was for scholars to

group art and design together. Discussions of distinctions between art and design

frameworks in practice-led research began in the early 2000’s with scholars such as
Steven Scrivener, Jillian Hamilton, and Luke Jaaniste. The metrics they used to draw
these divisions were the intent of the researcher and the role of the artifact. (Hamilton 3)

Hamilton and Jaaniste further Scrivener’s work in recognizing art and design research
frameworks individually by establishing a spectrum to characterize the differences. The
approaches they appoint for the two poles are designated “the effective” and “the
evocative.” (Hamilton 2) “Effective research,” as they call it, involves a problem-solving
pursuit - where the artifact produced as the result of the research acts as an innovative
solution to the problem affecting a particular community. This approach is typically
associated with design practices and Hamilton highlights the importance of the “intent to
effect change.” (Hamilton 4) In contrast, “evocative research” is concerned with more
broad issues than a specific problem. The artifact, or artistic result produced, may have
no clear and obvious use other than to contribute insight into the human experience -
evoking possibility rather than answering questions. Where in effective research, the
artifact is the embodied knowledge gained from the research and is more easily
measurable as a solution to a problem, evocative research cannot be reduced from its
original form and is validated only through critical reflection and philosophical framing.

Hamilton highlights crucial differences in the creative process - how questions emerge
and how the making is carried out - of practice-led research in art versus in design. In
effective - typically design research, the making practices are preceded by establishing a
framework, generating research questions, evaluating the context, and developing a guide
Evocative research, Hamilton writes, occurs through an “ongoing dialogue between practice, theory and topic” where the research questions emerge and the shape of the project forms as the creative practice is already unfolding. (Hamilton 6) True to the nature of any ‘spectrum,’ Hamilton makes note that not all practice-led research projects fall at either end of the evocative versus effective spectrum. Some, she says, “sit in a blended or hybrid position,” and “some applied arts practices aim to be practically effective, and some design practices can be highly evocative.” (Hamilton 12) It is simply helpful to have this spectrum defined - with the goals, processes, and artifacts of each laid out in such a way that the distinctions between art and design practice-led research can be much easier read.

As a student at the Advanced Computing Center for the Arts and Design, I have witnessed animation research projects that fall at all points along the design/art or effective/evocative spectrum. Early in my studies - without having the vocabulary I’ve now been given by Scrivener, Hamilton, and Jaaniste - I struggled to recognize the contribution of animation practice as research while looking at it only through the lens of my location in the Design Department. My pitfall was attempting to apply the effective research approach to my practice-led inquiry - and struggling to understand how my creative works were acting as ‘solutions’ to ‘problems’ concerning a larger population. It wasn’t that animation can’t function in that way, but rather, my inquiries and research questions were forming in an emergent and intuitive way that better fit with an arts research methodology. Over time, I became aware of the importance of self-awareness, critical reflection, and analysis to give validation to my creative works as research - a
process which for me took the form of writing, though I am not convinced that is the only way to conduct this sort of exegesis.

Purpose Statement

The emerging question from my practice-led research became a sort of inception into the real meaning of research in animation. I’ve become aware of the lack of academic discussion about practice-led research in animation specifically and I think, from tracing the progression of the practice as research concept in academic discourse up until now, it is time to bring animation into the conversation. I hope to contribute by collecting the voices I have read on related topics, wading through the work of my animation peers, as well as presenting my own creative-production research as a retrospective case study. With the breadth of approaches, styles, and topics investigated in animation that I discussed before, it is clear that there cannot simply be one defined methodology for animation as research. Animation spans the spectrum from art to design, problem solving to creative production, and by looking at the work (and exegesis wherever present) of animators throughout history, we can start to make visible the threads of practice-led research methodologies and the spirit of inquiry present.
Animation as a method of inquiry can be seen at the heart of many experimental and independent creations throughout the art form’s history, as well as in the present. Many of the first experimental animators were musicians or painters by trade, looking for new ways and new dimensions to further their work. They created exploratory studies, experiments in film and animation, as a way of researching and expanding their practice. Artists such as Fischinger, wanted to explore their art on a deeper level - to create more understanding in both themselves and their audiences. They were using animation as inquiry on two fronts, firstly artistic expression - in terms of theory, concept, and delivery - and secondly to research design, technology, and production processes for their creations. In Robert Russett and Cecile Starr’s book *Experimental Animation* they note that traditionally “experimental animators have avoided the standard animation stand and the production-line-procedures of the commercial studio. One common bond among all experimental animators is that, in varying degrees, they personalize their equipment and techniques.” They go on to point out that though most experimental animators were “primarily concerned with animation as a form of artistic expression, they also fulfill another important need by providing others with innovative and exciting technical directions.” (Russett 9) As it is pointed out in the preface to Russett’s book, there is little writing to be found which validates the artistic and technological achievements these experimental artists/researchers contributed to the field of animation. I appreciate in Russet and Starr’s writing that they place value on the personal reflections of the artists themselves, including interviews, documentation, and insight wherever possible.
I want to present a few of these early experimental animators (pre- and post- digital) to highlight the underlying examples of animation as inquiry - first giving a brief biography and description of their work, evaluating how they balanced their focus on process versus product, and then discussing the topics, theories, and philosophies behind their research. I wish to highlight how animation can fit in any location along the art & design or “effective” & “evocative” spectrum - borrowing from Jillian Hamilton and Luke Jaaniste for vocabulary. And finally, I will briefly discuss where we can see critical self-reflection by the artists - in the form of writing or other methods which elevate the work from ‘eye-candy’ to practical research.

The first of these early animators I want to examine is German artist Walter Ruttmann. Ruttmann is credited with showing the very first abstract animated short in 1921. Trained as an architect, painter, and graphic designer - his animated films, the Opus series, focus on movement, time, abstract form, and color. Ruttmann’s films possess a captivating continuity of slowly morphing blob-like forms - circles, triangles, fields of color, inorganic and organic shapes. The incredibly fluid motion, while still entrancing to a modern audience, would have shocked the viewers of the early 1900s - who had never seen anything like this sort of abstract film. Ruttmann is investigating the power of movement in his piece created through manipulation of form over time and using the medium of animation and abstraction, “as a negation of reality,” as Esther Leslie puts it in her book Hollywood Flatlands. (46) The way he created these films, frame-by-frame and hand tinted, speaks to the deliberate nature of his design choices. Ruttmann is
orchestrating and choreographing his visuals in the same way a musician or modern dancer might experiment with rhythm, timing, and qualities of motion. Ruttmann was a 2D painter. His experimental animations are his paintings with an added dimension of time – so his practice-led research was essentially to define what this new mode of creating, eventually called ‘animation,’ is and can do. He uses the qualities of color and movement as tools for communicating mood or conveying confrontations and interactions in the Opus films. When a slow moving, purple smear floating across the screen is interrupted by a sharp red triangle jutting from the bottom of the frame, Ruttmann shows us how contrast can heighten tension. In order to create these two different kinds of motion, floaty and abrupt, Ruttmann would have had to translate his visual thinking into a series of single images – anticipating how far a shape must move in each frame and how many frames it should take it to get from one place to another, determining the speed and pacing. Freedom from these kinds of deliberations is something taken for granted in live-action filmmaking as opposed to animation, where every bit of reality must be created. Throughout the Opus films, Ruttmann experiments with how complex interactions and emotions can be distilled down into simple qualities of movement, shape, and color, which he then translates into the language of animation, 24 frames of hand-made artwork for each second.
Leslie refers to Ruttmann’s work as “scientific research into perception,” claiming that it was “art and science, with a new basis for both.” (Leslie 50) As one of the first experimental animators, Ruttmann was looking to solve two clear design problems: how to add a time dimension to painting and how to add a visual dimension to music. Ruttmann’s background as a musician is clearly at play here in how he establishes structure, rhythm, and contrast in the piece and his graphic design and painting

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1 Watch the film here: https://www.youtube.com/watch?v=od0MxuD4xxQ
sensibilities are undeniably present as well. We *could* look at the artifacts from his research, his abstract animated films, as the simply solutions to these ‘problems’ encountered in his other creative practices, painting and music. There is, however, an underlying inquiry happening as well about the nature of this medium of animation. Ruttmann is asking something of his audience - asking them to fill in the blanks while watching this abstract experimental form of film. He is experimenting on them by limiting the information provided – utilizing the strengths of animation for simplification, abstraction, and metaphor to contest the expressive qualities of other art forms.

From the work of Ruttmann, grew more practice-based inquiries to perfect the use of film as a medium for artistic expression. Esther Leslie writes, “Avant-garde film surfaced out of the extension of problems posed in the fine arts: how to represent rhythmic processes not just in space and on a flat surface but also in time. And, once film-literate, they hoped to create a pure language of cinema, a cinematic specificity” (Leslie 37) Ruttmann was fleshing out the spirit of animation – defining the strengths and capabilities of the medium and setting a precedent for future animators to come. The forms in his work, the aspects of timing and pacing, and discovery of what happens when two slightly different paintings are shown in sequence are the same building blocks that animation artists use today. With the language, or tool set, developed by early experimental animators like Ruttmann, contemporary artist-researchers are free and able to expand to ask the questions of what animation can do *in addition* to our accepted definitions. Experimental animators Viking Eggeling and Hans Richter, roused by the work of Ruttmann and the creative potential in the field of avant garde film, used the medium to explore new design
inquiries in animation – such as manipulating geometric elements of design in pursuit of creating a universal language of communication.

Oskar Fischinger’s work in early experimental filmmaking offers another view of animation practice as research. Fischinger, another German, was a trained musician, draftsman, and engineer before embarking on his journey in animation. All of these early experimental animators had training and experience in disciplines outside of animation which would impact and influence their work. Animators both past and present come from diverse educational backgrounds and artistic disciplines - animation providing them another front to further their creative practice, a medium to explore new or existing questions, and a place for developing understanding. In 1921, Fischinger attended a public showing of films by Ruttmann, Eggeling, and Richter - inspiring him to pursue experimental animation further after seeing how his predecessor had used this new medium. The work of Fischinger’s I’d like to use in this example is a series of investigations he titles Studies (1930’s). In an essay called, ‘About the Word Experimental,’ Fischinger clarifies his distinction between experiments and studies being that experiments aim for development or discovery of techniques and studies explore the multitude of possibilities offered through that specific technique. (‘About the Word Experimental’) Fischinger’s animations clearly embody his definition of a ‘study’ as he utilizes the specific strengths of his techniques in animation to explore qualities such as line, shape, rhythm, movement, and pattern and concepts such as abstraction and perception. While Fischinger is known for his many experimental techniques and technological developments, having a drafting and engineering background, his film
Studie Nr. 8 was drawn entirely by hand with charcoal. At first impression, Studie 8 might seem to be a simple, minimalist film in black and white geometry. In this study he is working with the visual elements of multiples, repetition, and density – orchestrating many little white shapes through a dance of pattern, movement, and time on a black canvas. He experiments with direction, trajectory, and tempo as expressive elements – stretching & squashing and shrinking or growing the shapes as they move across the screen in elaborate formations. All of these techniques create much more depth, texture, and perspective than Ruttmann’s animations, as if the visuals were happening in 3D space. Watching more than a few seconds, and knowing how he made the film, reveals the depth and complexity involved in Fischinger’s inquiry. In addition to creating the film frame-by-frame, Fischinger took his craft one step further to impose the limitation of never photographing the same drawing twice. (Russett) This resulted in an incredible smoothness to the motion but also, one can assume, much more painstaking work for the artist. The multiplicity of this film poses questions regarding automation, reuse, and craft in animation. Fischinger deliberately avoided these type of ‘shortcuts’ and emphasized the hand-craftedness of every element in his film. How might the work, or the artist’s relationship to the work, be different had he employed these faster techniques? This is something that Fischinger’s peers and future animators would grapple with, especially with the introduction of digital technology and proceduralism.

This film is choreographed to the music of “The Sorcerer’s Apprentice,” but the visuals are a far cry from the figurative, narrative story we are used to seeing with this score involving a mouse in a magician’s hat. Branching from the work of his predecessors like
Ruttmann, Fischinger represents the start of a new phase of artists interested in depicting or evoking emotion through their animation. Fischinger’s pursuit was to work in abstract forms to create a visual experience like that of listening to music. He writes in “A Statement about Painting” (1951), “thus we find that music is not limited to the world of sound; there also exists a music of the visual world.” (Fischinger, “A Statement About Painting”) His films are a synthesis of the dynamics of movement and sound. He is reducing music to an abstract, visual form, but is not simply assigning a symbol to each note or sound. His inquiry is in creating a new visual symphony in harmony with the audio track; Embodying the same emotions or feelings conveyed by the music but in another language. In his reflective writing, Fischinger traces this interest in absolute expression back to an assignment for a Literary Club at age 19 where he attempted to visually ‘map’ a writing of William Shakespeare. He tells the narrative of using pencil and paper to analyze the literary work graphically - “along a horizontal line, I put down all the feelings and happenings, scene after scene, in graphic lines and curves. The lines and curves showed the dramatic development of the whole work and the emotional moods very clearly.” In order for his mappings to be better understood, he realized the need for time, movement, and tempo to be introduced - thus, the conception of his ‘absolute films.’ (Fischinger, “A Statement About Painting”) Fischinger’s writings make it even more clear to see in his work the topics, theories, and philosophies he was working through during his making process. He is reflexive in his writing, shares personal narratives, and traces how animation technology has supported rather than driven the work. He recognizes in his essay, “My Statements are in My Work,” that his creative works - what have proved to be timeless and captivating animated films - cannot
be simplified or condensed into writing. “To write about my work in the absolute film is rather difficult.” (Fischinger, “My Statements Are in My Work”) But most importantly, from these writings you can tell that Fischinger was aware that an exegetical look at the work - discussing the reasons for making, the influences, and the process - is crucial in revealing the knowledge generated through the practice. An example of the level of metacognition he was working with while making can be seen in this letter written to a friend in 1940 during the process of creating a film called, “Radio Dynamics”:

“I am now starting to shoot the film. I have already done the first tests. It's going to be a very good work that presents something quite new in the field of optical rhythm. I have gained a whole series of new perceptions during this current work, and these perceptions will be expressed in this film: used and made effective. For example, color mixture, color mutation in rhythmic exchange of color fluctuations on the motion-picture screen, such as is only possible because of the quick image-exchange rate of 24 frames per second. Through this film will be opened, among other things, a wholly new view of the field of color science. The Static, the passive observations of former color science, will be superseded by the Dynamic. This step corresponds to penetrating from the surface into the depths. The clever part lies in fast color change, in the vibration of colors which results in rhythmic life that is accessible through dynamic, climactic gradation. The psychological effect throughout is pleasurable. Concerning the interesting particulars of the temporal intermittence of color mix (one after another) in contrast to the spatial juxtaposition of color mix (side by side at the same time), one could now write a
very interesting piece. However, the film must be finished first!” (Fischinger, “Film Notes”)

What is problematic here is the last sentence in bold, that Fischinger insists the film must be completed first before there can be any reflective writing about the work. He fails to recognize the precious knowledge being gained through analysis of the creative process during the making. Many artists feel that they cannot fully articulate what they are doing, learning, and sharing until the final piece is complete – and to them I encourage taking time to think, journal, speak, and write about making animation throughout the creative process. There is much to be revealed about one’s work and oneself at these times that can only be extracted through conscious reflection, which Fischinger does at the beginning of the passage when he mentions his new perceptions gained.

While Fischinger was interested in solving ‘visual problems,’ like Ruttmann, Fischinger was much more focused on using animation in an artful way - to open up possibilities in human communication and understanding. His abstract animations contain his analysis of the “emotional content of a musical work” in the same way he had analyzed and visualized the emotional content of a literary work in his mapping assignment. (Russett 60) The artifacts of his research, though “poetically and purposefully ambiguous and irreducible in meaning,” are framed by reflective practice, historical precedents, and philosophical understandings of phenomena in music, psychology, and design. (Hamilton 11)
The period from the 1930’s, with Fischinger's work, to the 1960’s offered much in the way of diverse experimental animation and examples of practice as inquiry. Norman McLaren, an heir to a “lineage of minimalist art and music that emerged in the twentieth century,” utilized his practice in animation to conduct experiments in “pure design.” (Mollaghan) His work was practice-based and practice-led - advancing the technology and processes of animation itself as well as pushing the limits of what animation could do artistically. McLaren also pioneered a technique of creating synthetic sound in animation by etching directly on the soundtrack portion of a strip of film (see his 1939 animation, “Scherzo.”) This type of practice as research, the process of creating visual work without knowing what the resulting product will be, is common to several other experimental animators that would expand the medium with their work in ‘direct animation.’ Len Lye, a New Zealander, was the first animator to paint directly onto film with his animation “Colour Box” in 1935. This process of making, whether painting or etching directly onto the filmstrips, satisfied Lye’s desire to limit external influences tainting the true expression of the artist with filmmaking. Lye is quoted as saying that he worked with direct, camera-less animation not because he wanted to, but because he wanted “to deal with the control of three-dimensional motion.” This focus on process rather than product is an example for practice-led research in animation. It challenged existing definitions of frame-by-frame animation and expanded notions of what animation was capable of. These resultant artifacts, and knowledge therein, could not have been predicted but rather emerged from the making process. This work was continued with other artists such as Harry Smith and Stan Brakhage (‘Mothlight’ 1963) experimenting with similar direct-
animation processes as methods for researching broader artistic or philosophical concepts.

For one more example of animation practice as research in history, I make the jump to the introduction of digitally created artwork. Beginning with several examples of traditional animation, I wanted to highlight how animators have historically worked with technical processes, innovation, and experimentation in similar ways as digital animators still do today. Though my creative work and research focuses on digital animation as a research method, it is clear that the spirit of inquiry present at the birth of animation has not been stifled by the introduction of the computer - but rather, the advent of computer graphics has broadened the notion of what animation can be and can do. Charles Csuri, recognized as the father of computer art and animation by Smithsonian magazine, is important for me to include because he founded the very institution in which I study, create, and conduct my research today. The Advanced Computing Center for the Arts and Design at Ohio State University, formerly the Computer Graphics Research Group, was established by Csuri in 1971 on the ideals of creative research bridging the arts and sciences to develop and further digital art and computer animation. Csuri, originally a painter, was “immersed in the passionate discussions of his time, when abstract expressionists challenged everything from the purpose of art to the functions of abstract compositional elements.” (Gold) As an academic at Ohio State, Csuri was able to understand both the shifting culture of art discourse as well as the eminent role computers were to play in society. “His profound understanding of these two cultures put him in a unique position to merge aesthetics and computing, long before either group recognized
the potential synergies.” (Gold) Csuri’s computer animations necessitated collaboration with scientists, mathematicians, and programmers to bridge the language gap between human and computer; there was no such thing yet as packaged computer graphics software to create within. Csuri and his computer graphics researchers were designing systems, through algorithms and code, to enable image making. They expanded the boundaries of what current technology could do and at the same time were challenged to work within the technological constraints set upon them. Working creatively within the constraints of current technology is a challenge that has faced animators from early on through today’s forms of 3D computer animation. Like all animation, this kind of early computer graphics research required both an artistic and scientific mind - both an imaginative and pragmatic viewpoint. Csuri’s resulting work ranged from delicate line drawings to surrealist imagery and even geometric compositions far beyond what his early animation predecessors could have imagined possible.

In an essay for his own retrospective exhibit - “Beyond Boundaries” in 2006 - he muses on what elevates a creative work to a renowned, timeless piece of art. How “works represent forms of innovation” and “to what extent is art itself innovation?” (Csuri, “Beyond Boundaries” 21) Csuri recognized the danger of dazzling new technology being used to produce what Kandinsky would call works of ‘contemporary’ rather than ‘eternal’ value. “Advanced techniques often distort the reality of true innovation. Innovation is not simply doing something different. While technological advances have great appeal and I embrace them, there is a realization that somehow I must find the art in the work.” (Csuri, “Beyond Boundaries” 21) Throughout Csuri’s animation work and exegetical statements,
he is asking deeper questions about what it means to introduce technology into the process and how to inject human-ness and spirit into creative works being made with such inorganic tools. Csuri was a champion for the use of mathematics and computing to offer new possibilities and ways of problem solving to artists in a climate where the existing definitions of art hesitantly resisted incorporation of this kind of technology and automation. Maintaining the ethos of artistic craft though, he used the computer not in place of the artist – but rather, as a reactive material responding to sophisticated sets of instructions he designed from the visual compositions in his mind. This took a thorough understanding of the structure, parameters, and pliability of his material – computer code – but also a sense of whimsy, or as Csuri calls it “the ridiculous,” to dream up solutions that circumvented the existing limitations of his tools. In the same way traditional animators called upon abstract thinking to anticipate what each frame of an action should look like, computer animators at this time had to be able to think in multiple levels of abstraction – translating a visual idea into mathematical functions and machine language. With Csuri’s animation work, he was asking deep, probing questions about what it meant to work with computer animation as a medium and was self-aware of the infinite possibilities unfolding and the way in which the computer was changing how he created art. At the same time he held on to the artistic sensibilities developed from traditional art theory, study, and practice – the computer did not eliminate the necessity of these things but instead offered another medium for exploration of them.
On his website ‘Csurivision,’ Csuri posts an insightful reflection he wrote about his process in 1998 -

“Now I am working with the computer as an artistic medium. I have become accustomed to a tempo or dynamic as I set mathematical values in parameter space. There is an intellectual rhythm. Lurking somewhere in the background is my knowledge and feel for the great art of the past. When I set mathematical values, my mind is sensing choices as patterns of color and light. I see the relationships between objects as transformations involving position, rotation and scale. At a higher level it is a flow of functions, procedures and algorithms. All of this now is translated into pixels or my brush marks. The spontaneity of expression is in my mind and not in my fingers. My esthetic sensibility becomes imbedded in the computer language. The computer responds to my excitement and feeling through my instructions. It gives me real-time feedback as I see my image on the monitor. Outwardly, this has become my new canvas. I work back and forth altering the relationships between objects, colors and textures in a world space.” (Csuri, “Tactile Kinesthesia”)

Building upon the work of his predecessors like Fischinger, Csuri pursued his abstract ideas from earlier work with two-dimensional oil paintings to a three-dimensional digital environment. Computer graphics technology provided Csuri a more spatially accurate canvas to examine his ideas regarding form and space. Transitioning into animation, time-based media, also introduced a new need to balance attention to form with consideration for movement in a composition. While this may seem like too many
variables to attend to, Csuri writes about the freedoms he discovered in computer animation and taking a “Non-Planning” philosophy towards creative practice. When making animation digitally, there is a relationship between human and computer that allows (or necessitates) conceding of some control, which could be seen as either a sacrifice or a relief. As mentioned previously, a digital animator can design the rules of a composition without concerning themselves with the final results or many individual frames - the computer can take care of that part. The sacrifice is in the unpredictability of this method – an aspect Csuri embraces as “mystery,” or “possibility.” (“Charles Csuri Interviews”) An example of this is an experimental animation he created in 2008 called Air Balloons. In Air Balloons, many abstract balloon shapes hover through a three-dimensional space that extends off into the screen, giving the illusion of distance. The shapes possess varying stripes of color, like the concentric layers of the Earth or a jawbreaker hard candy, and these layers change as they move through space. In his blog, Csuri writes about how he conceived of this project – envisioning an environment and assigning rules to how objects behave within it.

“The world space has been divided into thin slices of color. As the objects moves through one slice entering another one the color changes...color appears as rings because of the curvature of the object. The object's speed of movement position through space determines the rate of color change. The world space can also be sub divided into thicker sections. Their orientation as well as the world color space can be altered over time. Color space can be changed at a faster pace than the movement of objects.” (Csuri, “World Space as Color”)
Figure 2. Still from *Air Balloons*, Charles Csuri, 2008²

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² Watch the video here: [https://vimeo.com/1944800](https://vimeo.com/1944800)
Though he is working in his method of “non-planning,” there is a system he set in place to generate this interesting, unplanned result. Defining the slices of color, setting the shape of the object and the speed at which it moves were all deliberate choices producing the resulting film. The beauty of this “non-planning” method of procedural computer animation is that by tweaking even one variable, many more possibilities are generated – which Csuri reflects upon at the end of his quotation. Looking back at his finished work, he lists many more possibilities – or doors to inquire inside which were opened up by this experiment. Csuri’s work shows us that the introduction of the computer and procedural techniques in animation have allowed for more freedom and unplanned exploration, which in turn promotes the generation of more questions, possibilities, and creative outcomes through the use of animation as inquiry.

Csuri’s work, practice, and reflections show the kind of “dynamic interplay of understandings and experience drawn from theory, practice and the researcher’s situated knowledge,” that lie at the heart of practice-led research in art and design. (Hamilton 6) His animations emphasize the need for balance between artistic foundations and technical aptitude when working with a computer to create imagery. I find many of the ideals set forth by his research present in my own inquiries – striving to conceive of animation from both an artistic and algorithmic standpoint, balancing my imagination versus rationalism to work within and around my technological constraints, and embracing experimental, “non-planning” approaches. The artifacts from Csuri’s work contributed greatly to society’s understanding of this new human-technology relationship in the arts.
and opened up as many questions as they provided answers regarding artistic value and authorship of digitally created works. As technology continues to develop and advance rapidly, we can look at the work of Charles Csuri and imagine how animation might be used as a method of inquiry in the future, pushing the boundaries of what we define to be art, research, craft, etc. Csuri provides us a great example of emergent and production-based animation as research in a world that was on the very cusp of a digital technology revolution.

Who is doing what?
Contemporary Animation Practice as Research

Moving forward chronologically, I present two contemporary animators - using the medium of animation in new or unique ways - through the same analytical lens I used above. I will assess the way in which they are utilizing their practice as research, conducting critical reflection, and situating their work within certain topics, theories, or philosophies. The works of artists John Roome and Michel Gondry embody the same spirit of inquiry and self-reflective practice seen by animators of the past but in a contemporary context.

John Roome is a fine art and jewelry designer at Durban University of Technology in South Africa whose research deals with the role and the act of drawing in the context of our increasingly digital world. I bring him into this conversation because of a project he did in 2009 involving animation alongside the traditional art of woodcarving. His artistic
research deals with the inherent capabilities of a digital medium, such as ‘copy-and-paste’ and ‘re-do,’ contrasted with more manual and permanent creation processes such as wood-carving. Roome also discusses the limitations of working with digital media and is perceptively aware of how working within these software limitations has enhanced his work and creativity. He wrote about his animation installation piece ‘Journey into the Ineffable,’ in an article titled, “Drawing in a Digital World: A self-reflective critical analysis of the creative output of John Roome.” ‘Journey into the Ineffable,’ reminiscent of William Kentridge’s distinctive charcoal animations, is an animation created from a series of digital drawings played in sequence. The drawings, created in Microsoft Paint rather than more advanced graphics software and using a computer mouse instead of a graphics tablet, possess the loose and spontaneous look of sketches created with physical tools like pen or charcoal. Roome rejects the straight lines and geometric forms typically associated with computer art, and in doing so, explores what it really means to work in a digital medium.
For the animation-hybrid installation, Roome projected several stills from the film onto wood panels and carved them out by hand, engaging in a physical craft while maintaining the relics of the working with computers, such as pixilation along curves seen in the image below. The animation was exhibited in tandem with the carvings by projecting the video onto one of the panels.

3 Watch the animation here: https://www.youtube.com/watch?v=vqDABn2iphQ
This unique multi-stage process carried out by John Roome explores the relationship between analogue and digital art making. He questions how traditional art-making or ‘craft’ processes can be incorporated into digital animation – and conversely how digital animation can be incorporated into traditional craft. Working in this way, Roome is engaging with his computer and his mediums with an attitude akin to the Arts and Crafts Movement of Ruskin and Morris. (A. Richardson 157) Though his process is a hybrid of traditional and new media techniques, in both forms he is demonstrating a deep understanding and mastery of his materials creating final pieces that are “a manifestation of the mental and physical engagement of the craftsman.” (A. Richardson 157) Roome’s

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4 Source: https://johnroome1.carbonmade.com/projects/2579035#2
work shows an understanding of the fundamental essence of his material – digital imagery. By combining analogue and digital processes, he attempts to give a physicality and permanence to a medium that is virtual, formless, and intangible. By creating the drawings digitally and then carving them into wood, he leaves traces of their computerized ‘look’ but also grants a permanent, physical state of being to the piece. Projecting the digitally animated video onto a static woodcarving gives the piece a life-like, kinetic, and temporal quality that could not be achieved through a lone, still image. Roome embraces both the strengths and limitations of analogue and digital creation processes and intertwines them in a way that showcases what can be learned from using them conjointly.

In creating this piece, Roome followed chance and intuition, allowing his work to emerge in whatever way he felt the artwork dictated. It is clear from his self-reflective writing, that the value in this artistic-research endeavor was in the creative process and the resultant dialogue it unfolded - more so than the physical product of the inquiry. Roome describes himself as a trained painter, constantly seeking “alternative means of expression through technical experimentation,” (Roome 1) a portrayal quite reminiscent of the early experimental animators discussed previously in this paper. However, he is working in a very different climate than his animators predecessors. In a time where digital animation technology continues to advance exponentially, edging closer and closer to realism, Roome chooses to revert to older versions of software and antiquated methods such as drawing with a computer mouse. The aesthetic created with these tools can be jarring to an audience, who has become used to the refined, hyper-real look that is
prominent in mainstream commercial animation. This serves a purpose however in Roome’s work, separating the viewer from reality; highlighting the constructed-ness and prompting the audience to dig deeper to understand and empathize with the work. Rather than trying to teach a computer to speak the language of traditional art forms – by using digital tools imitating a pen and tablet – he learns how to speak the native language of a computer – communicating in clicks and drags of a mouse – to work through the visual ideas in his mind. Roome proves that even with primitive technology, animation can still be impactful, meaningful, and connecting with an audience. In his article, Roome quotes reviewer Ian Calder saying “Roome avowedly uses minimal computer tools to create his animated images. In self-consciously avoiding flair, the authority and potency of his autographic skills in observational drawing is expressed most cogently (2009).” (3) He challenges a modern audience to focus not so much on pushing what animation can do aesthetically, but rather how we can use it’s capabilities to ideate, understand, and express in new ways. Roome poses an important question with his research - As technology continues to advance, what is the role of older, antiquated versions of the software and hardware? His animation research is an example of addressing, and even embracing, the limitations of technology by thinking of them as constraints one must creatively work within.

The artifact of Roome’s creative practice is a relic of thought in process and his academic reflective writing serves to situate this research in a theoretical context. By pulling in critique and quotations from reviews post exhibition, Roome provides us an example of how meaning can be made from artistic-research after the creation process - through
reflection, reception, and feedback. In support of digital animation as a method of inquiry, Roome writes in his article that, “working with digital animation as a way of generating visual ideas seems to hold enormous potential. In addition the digital medium is an excellent means of recording and analysing my creative process.” (7) John Roome’s exegetical take on his work and analysis of his creative process, in the form of traditional academic writing, helps to elevates his animation from creative practice to practice-led research. But as Roome points out, and from my look at many artist-researchers working with animation as a method of inquiry, the animation itself is a valuable means for capturing the knowledge generated in the process aside from the written word, which is the privileged medium in today’s academy.

Unlike the animator John Roome, this next artist is not one who operates in the realm of academia and traditionally aligns himself with artist-researchers. Michel Gondry is a French film director, screenwriter, and producer working in New York. Gondry is known for his work in both feature and short films, documentaries, music videos, and advertisements. Gondry’s most popular work is likely his 2004 live-action feature film ‘Eternal Sunshine of the Spotless Mind’ - for which he won an Academy Award for Best Original Screenplay. He is noted for his unique visual style which often includes stop-motion animation, camera trickery, and hand-crafted techniques. For this background I want to focus on one specific project of his, an animated documentary film, ‘Is the Man Who is Tall Happy?’ which applies traditional, hand-drawn animation techniques to an interview Gondry conducted with noted linguist and political activist, Noam Chomsky. Animated documentary is a genre of film which utilizes animation to help tell non-fiction
stories in a way that illustrates the concepts or simplifies complicated information. In creating this film, Gondry used a lightbox and Sharpie markers to generate the frame-by-frame drawings which were then photographed by a 16-millimeter camera on a tripod.

![Figure 5. Still from *Is the Man Who is Tall Happy?*, Michel Gondry, 2013](image)

The boundless nature of animation transforms this film from what could have been a monotonous video interview into a more entertaining and visually pleasing work of art. But more than just aesthetically, the animation in this film serves to both abstract and clarify some of the complex ideas of philosophy and linguistics being discussed between

5 Watch the trailer for the film here: [https://www.youtube.com/watch?v=d9c4xJEP6eI](https://www.youtube.com/watch?v=d9c4xJEP6eI)
Gondry and Chomsky. Noam Chomsky is a Jewish-American man who became known as an accomplished linguist, philosopher, cognitive scientist, logician, and political activist - spending the majority of his career at Massachusetts Institute of Technology (MIT). Chomsky is also well-known for his political activism and criticism of U.S. Foreign Policy. What is important about this project is the way in which Gondry makes his thinking apparent through self-reflective narration as well as the animation/filmmaking process itself. Throughout the film, the narration illustrates a conversation between the filmmaker and Chomsky, the filmmaker and the audience, and the filmmaker and the concepts being discussed. This kind of naked, objective view Gondry gives us of the documentary filmmaking process in this particular film provides much evidence for his creative practice as a form of research. Gondry is clearly working through several theoretical concepts in his making process - those being discussed with Chomsky on screen as well as those pertaining to the nature of animation and what it brings to documentary as a genre. At the outset of the film, Gondry makes the statement: “Film and video are both by their nature manipulative.” When Gondry uses the term ‘manipulative’ he is recognizing that film and video are a very much curated art form. The audience is watching the subject on the screen through the lens of the filmmaker, director, or producers – who often have their own agendas or messages they are trying to get across. The choices they make of what to include, what to leave out, and where to cut and piece shots together allow the filmmaker to manipulate the audience’s perception of time, space, and reality. He begins with this heavy statement in order to emphasize that this film is very much his interpretation of Chomsky’s work and philosophies. Gondry is asking his audience to consider that a film like his, though very documentary-esque, is
still the work of a filmmaker and artist – and that they should consider that in forming their own conclusions rather than taking everything presented as truth. This challenges our notions of what we take to be ‘non-fiction’ and reinforces novelist E.L. Doctorow’s idea that “there is no longer any such things as fiction or nonfiction, there is only narrative.” (Richardson 961) In several ways, this film by Gondry also acts as a call to challenge pre-existing notions of fact - which is a noted strength of artist-researchers. Before Gondry, I’m sure that Chomsky had never been approached with the proposition of creating an abstract animated film about his work – Gondry’s style of animation and film is not one commonly associated with the subject matter of science or linguistics. Gondry is a risk-taker and revolutionary in this instance because he is approaching subject matter that is typically out of his realm but using his unique skill set to bring it into a work of art that raises questions, opens up possibilities, and presents new knowledge. Throughout the film, Gondry continues to issue this challenge to the viewers. He makes an example of himself when he misunderstands a piece of Chomsky’s philosophy on emergence of language and then admits to feeling “A bit stupid here…” – he embraces this moment however by using his animation skills to try and better explain his thinking and rephrase the question. Animation, by nature, is very good at representing abstract concepts because the filmmaker is not held back by the limitations of reality. The visuals can go from more than just concrete recognizable objects to interpretation of feelings or mindset. By generating these animated visuals alongside the narration, Gondry provides us with his own creative interpretation of Chomsky’s words and also delves into more conceptual and contextual issues surrounding the constructed nature of
film, the strengths of animation as a thinking process, and the inseparability of the artist and the work.

What can be concluded from this analysis is that animation can span the spectrum from art to design and effective to evocative research - and that as a medium, it has shown the roots of practice as research throughout history. Moreover, it is increasingly clear that the necessary components for creative work to fall under practice-as-research - the intent to produce new knowledge, the production of a creative artifact, and an exegetical framing of the outcome - can come in a variety of forms depending on the individual artist. It is with this claim that I move into my attempt to define animation as a method for inquiry using my personal experience and creative work, along with the voices of my predecessors, as case studies.

Defining “inquiry” in terms of digital animation

I approached the subject of ‘digital animation as a method of inquiry’ first by attempting to define inquiry in relation to animation - looking at the tenants of qualitative inquiry and how they appear during this creative practice. When conducted in a way that is self-reflective, the process of making animation can offer a most honest and intuitive form of research. Inquiry is a systematic endeavor to gather and examine information. It is exploratory, ambitious, critical, and often emergent. Examples of artists using their practice to inquire into new ideas and developments are apparent throughout history - from the journalings of DaVinci to the experimental films of Norman McLaren, a painter by trade but now recognized as a pioneer in animation. Artist-researchers are constantly pushing the boundaries of what their work can do - intrinsically and instrumentally – and the reflecting upon their work, in theory and in practice, adds to a collective knowledge base of experiences. The making of animation is inquiry when the artist allows it to be reflexive, emerging, holistic, intuitive, rational, and transformative.
One recognized tenet of qualitative research is that there must be an appropriate level of reflexivity. The researcher cannot be separated from the research - and further than that - the researcher themselves can be considered the key tool with which the study is conducted. John Creswell writes in his book on *Qualitative Inquiry & Research Design* that “All researchers shape the writing that emerges, and qualitative researchers need to accept this interpretation and be open about it in their writings,” which echoes the importance of an honest acknowledgment and assessment of how the researchers themselves are impacting the work. (Creswell 215) Animation inherently allows for and showcases that level of reflexivity. The two facets that typically define animation – that a series of still images, usually 24, played in sequence make up one second of action and that the artist creates the work in a frame-by-frame manner – highlight how much authorship, interpretation, and analysis goes into making an animation. An animator balances their observations of the world around them with their own inner sensibilities emerging in the style, execution, and feel of an animated piece. Especially in digital animation, where the nature of the computer as a medium requires ideas and information to pass through several levels of interpretation, the animator’s personal set of views, experiences, and insights are directly influencing the work. Being observant of how your background, experiences, and personality all affect the decisions you make when creating is adding reflexivity to the practice of animation. If we do as Creswell says, only substitute ‘animation’ for ‘writing,’ we need to acknowledge that our animation work is an *interpretation* and by possessing an informed sense of self, being honest and open
about how that impacts our inquiry, we can begin to grow the lacking literature about the experience of making animation. Throughout my research process, I have become aware of how my educational background in science and engineering impacts how I address my creative process. I may work in systems or patterns that seem foreign to someone coming to animation from a different discipline. I pull from my understandings of mathematics, geometry, and physics to try and make sense of the computer graphics on my screen. I solve problems by writing algorithms or drawing diagrams, which may not work for someone who has a different set of experiences and background than I do. The development of an animation on a cognitive level - through the transformation, reassembly, and combination of ideas, thoughts, and memory of the animator - is fundamentally the same as the way we begin to frame a writing inquiry, through a literature review, interweaving of established theory and voices, and reflection on the self as a research tool. When an animator is observant and reflective of how their strengths and literacies are reflexively at play in their work, we can better understand the interpretation being presented through their animation.

Emerging

I was led to my interest in qualitative research, creativity and making through an attempt at mapping the connections between the creative works I had been making over several years of graduate studies in digital animation. My personal style of thinking requires me to draw and diagram ideas, to view information spatially - so I was using these approaches when looking retrospectively at my academic life to try and tease out the true
meaning, importance, and impact of the work I had done and the path I had taken. This initially took the form of a complex and messy chart laid out two-dimensionally in a tangled web of lines. Attempting to distill the meaningful connections and complex relationships, I soon realized they could not be captured in these flat and orthographic mappings. I desired a way to think through my concepts on another axis. I recognized that time is not the overarching scale that ruled my creative body of work. Yes, chronology is a useful axis to organize works superficially, but I found that when attempting to discern meaning and understand the knowledge that is contained in my work and through my process - that time was not practical. I saw that influence is not merely linear - we do not move in a straight line from one project to the next but rather we move both backwards and forwards, left and right, up and down. We gather information constantly, which affects how we view our work and how we approach creating, both theoretically and practically. My practice and research were emerging on many fronts as I reflected, wrote, and assessed my making. I noticed how new information, new perspectives, and new directions could change how I see an object in the past - like the shifting colors and reconstructed worlds of a kaleidoscope each time you turn the mirror and look through different beads of glass. Laurel Richardson, in her exposition on ‘writing as a method of inquiry,’ conceives of a new schema for qualitative research as not triangulation but rather “crystallization.” (Richardson 963) A crystal, she writes, “combines symmetry and substance with an infinite variety of shapes, substances, transmutations, multi-dimensionalities, and angles of approach.” (Richardson 963) Crystalline structures have the ability to expand in many directions, growing and changing while never losing structure. I realized that my inquiry in animation was better
represented as a crystalline cluster, growing and expanding in different directions as I incorporated self-assessment and awareness of my process in my research. Richardson perfectly satisfied my yearn for a way of describing animation inquiry and the methods within that is not linear but constructive, ever-expanding, and non-deterministic. My 2D mapping was insufficient as a model for inquiry in animation because it could not represent the constant evaluation and reconstruction of my creative process, the reflections that happen throughout, changing my views on past and present works, and the feelings of uncertainty, questioning, and dissatisfaction that happen within. Inquiry in animation is an emerging process, a crystallized structure of branching artistic products and understandings connected by the bonds of reflection, self-assessment, and re-evaluation.

Intuitive & Rational

Working creatively often requires flowing between modes of intuition and that of deeper cognitive process. Anne Lamott insightfully writes,

“You get your intuition back when you make space for it, when you stop the chattering of the rational mind. The rational mind doesn’t nourish you. You assume that it gives you the truth, because the rational mind is the golden calf that this culture worships, but this is not true. Rationality squeezes out much that is rich and juicy and fascinating.” (Lamott 112)

Lamott hits the nail on the head with her claim that if we praise and reward only rational thinking in our methods of inquiry, we are losing out on the valuable gems that can be
uncovered through awareness of how intuition is functioning in our work. What she doesn’t say though, is how we need both in our creative practice and research work. Dance scholar Vida Midgelow writes about her work with improvisational dance as having a balance between physical knowing and the knowledge that comes from “emotional, critical, and memorial realms.” (Midgelow, “Sensualities” 1) In animation as well, there is a balance between learned technique, intuition, and critical problem solving - a creative decision making process happening both consciously and unconsciously. As a dancer pulls from their “critical and memorial realms” - the medium of animation requires an animation artist to do the same in imagining and ultimately creating what is happening on the screen. We observe and store information from reality, applying that during the creative process to generate believable visuals. Motion in animation is created by setting a series of ‘keyframes,’ or defining important poses at the beginning and end of a movement. If a ball is going to bounce, we have to anticipate the start and end points and where it might be positioned at the top of the arc. Knowing these key points, our minds can fill in the blanks to tell us the path the ball will follow. Animation pioneer Norman McLaren is often quoted, “What happens between each frame is more important than what exists on each frame.” (Hoffer 5) It takes both intuition and critical thinking to decompose complex motion down into single images that when shown in sequence will produce the desired effect. The definition of animation as “the technique of single frame cinematography,” supports the need for both kinds of reasoning during the creative process. Creative arts, including animation, have particular ways of ‘knowing’ through our relationship with our materials. Animators, especially those working with digital technology, are constantly interrupted by the demands or limitations of the tools we use.
Working with a computer and virtual medium, animators must constantly think about translating what may come from intuition into the language of our software or interface. This may come more easily when the tools are designed to mimic those of traditional art, like a digital drawing tablet with a pen-shaped sensor. But when we are doing other forms of computer animation, working with a mouse and keyboard, or even writing code to generate graphics, the intuitive thinking is buffered by the need to translate ideas from visual to computer language. As an artist becomes more literate in the use and language of a computer - understanding the levels of representation and abstraction - creation can happen in a more fluid manner. But as digital animation is bound by technology, there will always be limitations in the medium that will necessitate cognitive problem solving to circumvent or create within. In creating art, there is always a balance between knowing and the exploratory trying, or ‘not-knowing’ which leads to new ideas and innovation.

The making process in animation calls for intuitive and rational thinking in order to create the imagery on screen as well as to interact with the tools and material. This results in an interesting, interrupted flow throughout the creative process that can be mapped through self-awareness and reflection.

Holistic

Elbert Hubbard wrote in 1908 that, “Art is not a thing – it is a way.” (Hubbard) The emphasis and value society has placed on results over experience and process has assisted in oppressing creative making as an academic endeavor. In an article on “Studio Enquiry” by Estelle Barrett, she highlights how,
“Mechanisms that have traditionally valorised and validated creative arts practices have focused on product rather than process. Moreover,” she writes, “such mechanisms have tended to rely on the mystification of artistic products as commodities rather than an elucidation of creative arts practices as alternative modes of understanding the world and of revealing new knowledge derived from lived experience.” (Barrett 2)

In animation especially, focus has historically been on simply the final product and has lacked the rich insight and experience of the animator. Animations have been validated on the films themselves and the technicalities behind their creation but not the ‘whats,’ ‘whys,’ and ‘hows’ of the filmmaker’s process. Considering all of these things synchronously, in a holistic look at the animation practice yields true inquiry and valuable knowledge. In making animation, all choices are deliberate because everything must be created – nothing comes for free. As opposed to live-action film’s physical materials and pre-existing sets, animators are working with virtual materials that must be created from nothing. Sure, there are pre-made objects, textures, etc. – but even those were at some point in time created by a human. If you unscrewed the back panel and looked inside, you’d find a long list of 1’s and 0’s in what would appear to be a meaningless, random pattern. But it is not, everything in computer graphics is created through layers and layers of abstraction – starting from binary code to machine language to the shapes we can finally see on a screen. Our computer is our translator. Taking a creative, artistic vision from the formless-ness inside one’s head through minds and our fingers into the virtual materials of a computer. This entire process involves pre-planning
and improvising, conscious and unconscious decision-making, trial and error. The navigation of all of these is where connections are drawn, and ideas and knowledge are generated. Taking a holistic view of the entire animation process will require changing past attitudes and cultivating the skills to think meta-cognitively, but will yield a rich contribution to the field of animation.

Transformative

Animators must be able to look at the world and view how things are connected, because the very art of animation is in using symbols to represent both the seen and unseen. In constantly analyzing and interpreting the world around them, animators position their work somewhere along a spectrum from abstraction to realism, but always with the goal of believability. The choice of symbols and metaphors used in animation must transform the world but retain the distilled essence necessary for an audience to understand and connect. One of animation’s strengths is in simplification of complex ideas, but these simplifications must retain some reflections of reality for them to be effective. An animator is making all of these decisions actively and intently. Being able to justify, discuss, and assess the transformative nature in a piece is an important part of the inquiry involved in animation research. As mentioned previously, the observations of the and ideas in animation are passed through several layers of translation – from the artist’s mind through their tools and software and the computer. As an artist-researcher, one must be aware of those translations and how they are affecting or modifying the information. There is a manipulative nature to animation as well that an artist must reflect upon in
their work. In addition to being an authorial and self-reflexive interpretation, animation has a synthetically created timeline. What I mean by that is that the artist controls the timing, by creating a specific number of frames. Through editing they can also compress or extend time. Actions can be rearranged and images can be placed in sequence to imply certain relationships. Digital animation allows for creation within a three-dimensional environment - but this computer animation environment is not bound by the same laws of physics or nature which we hold to be true in everyday life. Making animation can break rules, upend expectations, and offer a field of play unlike any physical environment. All of these freedoms and choices in the making process should be considered in the personal account of the filmmaker doing the inquiry.

We live in a world that is increasingly digital, three-dimensional, and interconnected. It makes sense then that we would require new ways of understanding and interpreting information to match these new ways of communicating, ingesting, and presenting it. Defining inquiry in ways which we have never thought before could lead to new forms of knowledge that we have not discovered before. Thinking of animation in terms of a method of inquiry supports Elizabeth Adams St.Pierre’s call to action that “it is important to interrogate whatever limits we have imposed on the concept method lest we diminish its possibilities in knowledge production.”(Richardson 967) In a journal article from Material Thinking, scholar Nancy de Freitas speaks of designers as being “necessarily attentive (if they aren’t they should be) to the way they may make and remake the material world in order to adapt it to living in the future.” (de Freitas 2) In addition to the de Freitas’ “material” world, we can use attention to the ways we think in the arts, design,
and animation to remake our ways of thinking in the future to adapt to the changing face of information and technology. Animation, as with all creative works, allows one to combine the ways in which they view the world - knowledge, insights, memory - into a representation and interpretation that creates “patterns where others see chaos,” and does that which John Creswell claims to be the ultimate purpose of qualitative research - “to help make the world visible, turning something in the world into a series of representations and interpretations.” (Creswell 43)

The need for animation as a method of inquiry

A Lack of Visual Literacy

In her article discussed previously, “The Effective and the Evocative,” Jillian Hamilton states that “The production of new knowledge (new to the world and not just the individual researcher) is fundamental to all research projects.” (Hamilton 10) There are many institutes around the world now dedicated to investigation of the notions of creative practice as research and alternative artistic modes of encapsulating knowledge. My home facility, The Advanced Computing Center for the Arts and Design at The Ohio State University, calls itself a “collaborative think space, a place to make, create, imagine and above all connect,” and uses emerging arts technologies and design research strategies to carry out these inquiries. Many international institutes such as The Choreographic Lab at the University of Northampton (discovered by me through reading the work of Vida Midgelow) and the Creativity and Cognition Studios at The University of Technology in
Sydney, Australia offer practice-centered research facilities to further the use of animation and interactive media in scholarly inquiry. Animation as a method of inquiry is needed in our academic conversations because of its great potential to contribute to the world’s knowledge base in a unique and unparalleled fashion. Furthermore, Laurel Richardson makes the claim that language is not enough to contain the world. (Richardson 968) If language is not enough, what different forms of communication exist that can capture the essence of a world uncontainable in words? Filmmaker Peter Greenaway claims that being able to push communication through the visual medium is the answer. Arguing that the majority of society today is visually illiterate, he sees a need for educational reform so we might better be able to understand, interpret, and create images. His claim that culture has been elitist towards communicating through textual language is supported by the previous lack of support for artistic practice as academic research endeavors. Animation is one of those artistic practices that has gone unrecognized for the deep inquiry involved in its creative process. Animation is a visual language which can bridge geographical, cultural, racial, and all kinds of other differences among people. Animation is a first person voice - that can express where words fail us - and can capture the human experience in a way that is invaluable. The creative arts are one area that often resists the constraints of textual language. With text being favored over artistic practice, many animators have shied away from using it in their practice. Seeing that text is insufficient to encompass the complexity and richness of a moving image piece, animators are reluctant to write about their work in the format of traditional academia. Encouraging an observant, self-reflective, and critical animation
practice as a valuable form of inquiry would help to address this issue of visual illiteracy in today’s society.

A Climate of Constructed Realities

The need for animation as a method of inquiry can be contextualized through the lens of postmodernism and post-structuralism in today’s academy. As Richardson writes, we are working in a “postmodernist climate” towards research and inquiry. (Richardson 961) The postmodern definition itself - that our reality is not \textit{mirrored} by our understanding of it, but rather \textit{constructed} - supports the value of animation as a valid form of qualitative research. Animation is by nature, a constructed reality. We must start from nothing, a blank slate or screen, and generate visuals to convey ideas through representation, abstraction, or metaphor. Animation shows rather than tells. It presents the artist-researcher’s individual interpretation of the world. A postmodernist view on research allows that, as Richardson writes, qualitative writers do not “have to try to play God, writing as disembodied omniscient narrators claiming universal and atemporal general knowledge,” (Richardson 961) animators can exercise the freedom and reflexivity to present the world and their research as they see it through their practice.

The notion of post-structuralism in today’s research environment - that language produces meaning and \textit{creates} social reality rather than \textit{reflects} it - also bodes well for animation practice-led inquiry. As animators we must understand ourselves and reflect
upon the work we create, the questions we are addressing, and the new ideas we suggest in order to tap into the value of our practice as inquiry. We can think about perspective and voice as different ‘axes’ for viewing and studying the world. Richardson gives the example that, “the implications of race and gender would be stressed, not because it would be “politically correct” but rather because race and gender are axes through which symbolic and actual worlds have been constructed.” (Richardson 964) It is apparent in the works of animators reflecting on their practice that both the process and resultant works are influenced by their personal axes. These fruits of animation provide a unique contribution of knowledge to the world and are the product of these many intersecting perspectives. When I create, even if I am not conscious of it at the time, I am a woman; I am a student; I am an American; I am many more things...All of these different axes of thought and culture appear in my process or final creative product at some point. By picking these out through reflection, becoming aware of myself and my current particular positions, I can share with the outside world what I am discovering and learning through my making.

With the censoring and arrogance of ‘science writing’ having been removed through the notion of qualitative research and the growing recognition of artistic ‘practice as research,’ the environment now in academia is prime for an animation-thinking revolution. The current atmosphere in qualitative research is not that of ‘universal validity’ but that ‘there is always more to know,’ or as Richardson describes it - “There is no such thing as ‘getting it right’ only ‘getting it’ differently, contoured, and nuanced.” (Richardson 962) Take for example the concept of an “Ani-jam,” or a collaborative
animation project carried out in an ‘exquisite-corpse’ style with many artists generating a piece of one larger project, all while working under a specific constraint or rule. ‘Exquisite corpse’ was developed by the Surrealists as a way to brainstorm and collect words, images, or ideas. Animation has adopted this concept and embraced the variety and multitude of perspectives, styles, and views among artists who call themselves ‘animators’ in projects such as the Animation Sequence Project⁶ and Austin Anijam⁷. In these videos, the many contributing animators are given a prompt or design challenge such as, create a 10 second sequence starting and ending with a 250 pixel square in the middle of the screen. The images below, screenshots from a compilation video of many artists’ responses to this design challenge, show a variety of styles, subject matter, and techniques to address the same problem. From abstract images to line drawings of human/animal hybrids and 3D imagery that distorts scale and perspective, these individual solutions do not claim to be the ‘one-size-fits-all’ answer to the design problem. Instead they bring to light different experiences, display first-hand data from the artist’s point of view, and pose many more questions.

⁶ See project here: http://animationsequence.com/
⁷ See video here: https://vimeo.com/84811168
The dialogue between writing and making

In my pirating of Laurel Richardson’s concept ‘writing as a method of inquiry’ and applying it to animation, I want to make the point that I do not claim animation is a substitute for writing. I am also not claiming writing to be a higher form of expression than animation, as may be the popular belief of society. This precedent, to value text over image, creates an insecurity in visual artists who then tend to shy away from writing. For me, a dialogue between writing and making is necessary to my creative process in

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8 Watch the video here: [https://vimeo.com/52848743](https://vimeo.com/52848743)
conducting animation research. Animation as a method of inquiry is a way in which, to borrow again from Richardson, artists can “learn about themselves and their research topic.” (959) As mentioned previously though, the artifact (or final animation work) cannot be presented as research alone - it must be framed with context, interpretation, and reflection. This may not always come in the form of writing, but because writing is the accepted or privileged medium in academic research today, it is a good place to begin.

Speaking in different languages

For me as an animator, much of my self-reflection comes through writing. I am constantly working in a back-and-forth flow between these two processes - animating and writing. It is clear to me that one makes up for what the other lacks in being able to, “compose thought and articulate the unsaid.” (Midgelow, “Sensualities” 4) Some ideas are simply better represented visually and others through other means, such as words. Some people think by drawing shapes, some through movement of their bodies, and others by writing letters on a page. I became aware of the power of animation as a visual language through an assignment and resulting short film completed in Autumn 2013 titled, “Digya.” Paired up with a classmate of mine, we were to ‘design and produce a non-objective, non-narrative animation that is interpretive of and synchronous with an instrumental music track of [our] choice.’ We defined non-objective to mean not including any representational imagery, trying to work in purely abstract forms. An interesting development for me came about in making and reflecting on this project that
no matter how non-objective the imagery in a film, the human mind will want and try to apply known representations to the visuals. We strive to create meaning out of something even when there is none. ‘Non-narrative’ in approaching this project, to me, meant not including any stories or relating any events, real or fictional. But I found that no matter how non-narrative or non-objective we tried to be in making, I could come up with a hundred potential stories in my mind while watching our completed film, as I’m sure other viewers can too. Animation has that power, even using abstract language, to generate ideas and possibility. In approaching this design problem and the specific constraints given, my instinct in pre-production was to draw. I brainstormed using rough forms, lines to indicate movement, and writing only in the form of short words and phrases indecipherable to anyone but me. You can see some images of my ‘storyboards’ and visual references gathered for the project below.

Figure 7. Images from the pre-production process for *Digya*, Malory Spicer, 2013

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9 Watch the animated short here: [https://vimeo.com/76108459](https://vimeo.com/76108459)
There was little writing involved in the thinking and making portions of this project for me. Writing about my ideas at the time didn’t seem to fit the assignment and I felt it easier to think abstractly using the doodles and scribbles in the images above. Because it was a group project though, I could show my storyboard images but also need to use language to communicate my abstract ideas to my co-creator. The action of translating gave me a better understanding of the concepts and implications of the piece but the ideas were generated through my visual language of drawing and animating. Collaborating throughout the creative process helped me to use different languages - words alongside visuals - to elaborate upon my thinking and make my ideas known.

Writing to understand - myself, my work, and my world

Writing is a tool for understanding. It helps an artist become aware of decision-making, conscious or unconscious, in their work and the implications of those decisions. Dance scholar Vida Midgelow recognizes that the forming of language “is an important part of coming to understand and share what we do and the ways we exist in the world,” and she developed a system of dancing/writing that enabled her to blur the distinctions between the two disciplines and offered a new way of capturing the ‘knowing’ in creative practice. (Midgelow, “Sensualities” 2) It has become increasingly clear to me throughout my graduate studies the ways in which I need my writing to help my making, and vice versa. There is a chain reaction in the way that creating and then writing then re-informs my creating. I have also discovered through this research writing process how autobiographical writing, writing about my thinking and creative process, has helped me
to better understand it. Richardson herself suggests autobiographies as a way of exercising writing as a method of inquiry in her list of creative analytical writing practices. (Richardson 974) Informal writing or journaling during the making phase of a project has also helped me to draw connections to references in outside fields as well as guide my project along different paths than it may have originally been intended.

“Sweet Cake” - A case for interdependent writing and making

Throughout my experience as an animator and researcher, I have noticed that meaning and understanding of my work often emerges for me long after the creation, through writing and reflecting upon it. Oftentimes we are not aware of some gems of knowing embedded in the artifacts of our work until we return to it with an augmented perspective of growth and experience. A project I worked on in 2013 titled Sweet Cake was one that I struggled quite a bit to contextualize and explain during the pre-production and making phases.
The feelings and ideas I wanted to investigate were ones that I did not yet have the vocabulary or language to discuss. I knew that animation was the medium for me to explore these ideas, to use a visual language to spell out the thoughts that I struggled to articulate. Making the animation - trying out ideas, charging forward with little pre-planning, discarding the failures, and discussing my process with my professor and classmates - helped me to better understand the questions I was posing. But I spent several weeks working on the project and upon completion, still left it feeling a little incomplete and unsettled. It didn’t have the same significance and eloquence that these nebulous, unformed ideas in my mind demanded; something was still missing. *Sweet Cake* was tucked away in the cabinets of my mind for almost a year before I returned to reflect upon it again. I know now that what I was missing in this animation inquiry was

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10 Watch the video here: [https://vimeo.com/80496609](https://vimeo.com/80496609)
writing. I revisited *Sweet Cake* on an assignment to write an artist statement for my ‘Re-imagining Research Writing through Creative Inquiry’ course. I think my subconscious knew that there was still more to known from *Sweet Cake* when I chose this project to write about. Writing an artist statement was an intriguing challenge for me. I had read so many artist statements but never really known or considered what the format should be, what is expected to be included, and how the artist might exercise some creative freedom with their writing. Through this exercise I came to understand how influences, intent, experiences, and other factors can be layered into a statement that gives the viewer a lens to consider the piece through. Artist statements, however, can be more than just a vehicle for communication between artist and viewer. Through my writing about *Sweet Cake*, crafting an artist statement for one of my own animations, I was able to converse with my work in ways I had not before. This artist-artwork exchange that happened during the writing of my artist statement, many months after the animation had been completed, helped me to better understand my own experience and knowing that emerged during the project. My writing about *Sweet Cake* resolved those unsettled feelings I had when completing the animation portion of the project and helped me to articulate how this animation was functioning as a method of inquiry for me in my creative process. At times writing an artist statement so long after creating the piece felt false - like I was *applying* or *retrofitting* meaning to a work that wasn’t there when I created it. I’ve realized throughout this research process that often, when something feels foreign, uncomfortable, or new - that is exactly what you should be doing. You must go outside your comfort zone and usual practices to push through boundaries. I was pushing myself to think about my animation work and creative process on a deeper level and teasing out important
connections and kernels of knowing from the piece, which are no less valuable or present whether written about during or long after making the project. My study in writing an artist statement also enlightened me to the fact that the reflection and writing about a project is a creative work in itself and should not be limited to a defined shape or form. Dr. Mary Anne Beecher, design researcher and chair of the Department of Design at Ohio State University, showed me an example of an alternative artist statement written for her piece “Hamballs for 50.” Her statement for this artwork took the form of a poem and opened my eyes to the potential for expressing the emotion, intent, experience, and feeling behind a work in a way that was economical yet powerful. The poem alone is a creative artistic work, but coupled with the piece of design work it belongs to, what we can know and understand about both is multiplied. Alternative or exploratory modes of writing are one way to help us to delve deeper into our creating and to understand or grow ourselves more through it. Writing can help an animator understand how they are using their craft as a method for inquiry and give them a vocabulary to talk about it to others.

**But why writing?**

In the midst of my research for this thesis, a fellow academic asked me over lunch, “Why is a thesis paper necessary for an MFA in animation?” A question I had asked myself many times prior to beginning this endeavor. And under current standards and connotations of the term ‘research paper’ - I still question whether it is reasonable to require an animation artist/researcher to write in such a stuffy, formal way. As Midgelow
puts it we need writing that allows for “ambiguity, subjectivities, and uncertainty.”

(Midgelow, “Sensualities” 7) There is no doubt in my mind though, that it is important to
the process of animation as a method for inquiry that the artist be able to articulate and
present the generated knowledge in their work to others. Without some form of critical
reflection, the thinking and knowing embedded in the making cannot be made clear to
those who did not create the work for themselves. Without this, some of the knowledge
and valuable connections made during the creative process are lost to the vast depths of
our minds. Without this, the work alone cannot be termed practice as ‘research,’ - it is
simply practice. There must be exegesis - a self-reflective critical look at both the process
and the artifact. A common question I believe is in the hearts of all artists is ‘how can we
make our work matter?’ Writing about the work – both during and after, formally or
informally - is one way to capture and communicate to others the importance of the
creative practice as research and as Vida Midgelow writes, for ourselves as the artists it is
an “opportunity by which we may ‘know’ a practice and through which we can ‘form’ a
practice.” (Midgelow, “Sensualities” 10)

What ‘digital animation as a method of inquiry’ looks like

In the previous chapter, I tried to illuminate how important writing is throughout my
making process. Using the cases of my own projects, I can see how writing - or the lack
of - impacted my final results and their significance, in both my own and the minds of
others. I believe reflecting and making need to be intertwined throughout the creative
process in order for animation to function as a method of inquiry. In this next chapter, I
wish to bring up some ideas on practices to encourage animation as a method of inquiry - in addition to incorporating reflective writing in the making process. There are several ways to encourage inquiry in animation and to highlight our ways of thinking that could get buried in the sands of a non-observant practice. In Laurel Richardson’s work on ‘writing as a method of inquiry,’ she proposes several writing exercises that use writing as a way of knowing. All of these exercises, she states, help to “demystify writing, nurture the researcher’s voice, and serve the processes of discovery about the self, the world, and issues of social justice.” (Richardson 973) From my studies and experience as an artist-researcher, attempting to navigate my way in both animation and qualitative research, I have discovered several ways of working that, for me, encouraged each of those things Richardson described. In the following sections, I present a few ways of using animation as a method of inquiry that highlight thinking and knowing through making.

**Collaborative Creation**

In his article, ‘Knowing by Being-There Making,’ scholar Cameron Tonkinwise highlights the benefits of collaboration to the creative process and the notion of conducting practice as research. Tonkinwise makes the insightful and honest observation that “Making is not all knowing. Clearly much if not most of it is not-knowing, wondering, exploring, trying.” (Tonkinwise 1) Collaboration, he writes, or working with ‘co-creators’ helps to “externalise the critical feedback between makers and the made that is inherent to making, allowing the feeling of knowing to appear more justified, the triangulation attesting to the coming to presence of the new and significant.” (Tonkinwise
2) Like I mentioned previously in the discussion of my co-created work, *Digya*, collaborative creation forces artists to verbalize the ideas, decisions, and discoveries happening within the creative process that may otherwise go un-catalogued. Discussing work with others, at any stage of the creative process and even after the work has been completed, can lead to more understanding and knowing - as I have discovered through this research and discussing my formative animation work with my advisors and colleagues. Collaboration on all levels in an artistic, creative environment is a living and dimensional version of the interweaving of pre-existing theory, notions, and peer work - the looking inside and outside, backwards and forwards - that should happen within qualitative research. There are examples throughout the arts of how collaborative-creation exercises can help to generate ideas and make connections. From the exquisite-corpse activities of the Surrealists to the *Anijam* projects I discussed earlier, activities involving dialogical collaboration during making can lead to increased idea generation and refinement, but importantly can lead to a reflexive understanding of one’s work through justifying and explaining it to others. In Richardson’s writing as a method of inquiry article, she describes a project carried out with her husband called ‘Travels with Ernest.’ By each writing independent narratives about a joint world expedition taken together, and then sharing the writing and engaging in wide-ranging discussions about the travels and resultant ideas formed, she and her husband were able to discover more about themselves. (Richardson 963) Valuing the unique lens that another collaborator can bring to a project - built from the collection of their individual experiences, knowledge, background, and many other ‘axes’ for viewing the world - is one way to reveal more knowledge through the creative process and encourage reflective inquiry. Animation, an
art form that often tends towards collaborative creation due to technological constraints and the production pipeline in commercial studios, has much to gain from encouraging dialogue among collaborators to honor each distinctive voice, externalize the feedback between the artist and the medium, and unearth more knowing through making. From early 2014 to 2015 I worked as a graduate research assistant on a collaborative animation research project carried out between ACCAD and the Ohio State University Police Department. Through this interesting and unprecedented collaboration, both sides leveraged their skills and expertise in an effort to create a final project and also generate knowledge that would advance both the fields of police-work and animation. Rather than operating like a contract-based facility, simply carrying out specified design work for an outside entity’s project - ACCAD encourages interdisciplinary creation, discussion, and discovery. Throughout the project’s duration, I met with representatives from the police department to examine project goals, share progress, and discuss new ideas or feedback. These informal meetings allowed for the production process to be much more dialogical, learning from each other and working to make a final product that served both parties. By having these frequent collaborative meetings, I was forced to find language to articulate the design choices I was making or proposing. The police officers were also challenged to find new ways to communicate to us - academics illiterate to their normal vocabulary and methods - and were dared to think in abstract new directions opened up by incorporating the strengths and possibilities of animation to their traditions. Though the final ‘product’ is still in progress, I would say that the knowledge gained from the first portions of the creative process in this collaborative endeavor is equally valuable as a final film. While animators so often collaborate amongst themselves - such as Lotte
Reiniger’s famous silhouette animation, *The Adventures of Prince Achmed*, including background effects by Walter Ruttmann who in turn used a wax-slicing machine designed by Oskar Fischinger to generate the visuals - there is much to be learned from animators also collaborating with those from outside disciplines. (Leslie 49) Though collaborative creation is often “daunting or off-putting,” as Heather Holian writes in her article “Art, Animation, and the Collaborative Process,” the benefits of collaborating outweigh the drawbacks in most situations as an approach to encourage self-awareness in animation inquiry. (Holian 6)

**Embracing the Medium**

Another practice to encourage self-reflective practice in animation is to contemplate and embrace what the inherent strengths and qualities of the medium can bring to the inquiry. Animation is a medium that utilizes concepts such as abstraction, time, metamorphosis, and metaphor to explore complex ideas. Even when not meant to be representational, like in the collaborative project *Digya*, animation communicates through visual language and questions arise such as what do images imply and what can images *in sequence* suggest? A common technique in film, including animation, called ‘graphic match’ or ‘match cut’ involves cutting between two similarly composed images of different subject matter. Side-by-side though, the similarities between the images draw continuity in the story and convince a viewer that the two separate clips are linked. One power, not to be taken for granted when using animation as inquiry, is the manipulative nature of the medium. Being conscious of implications and connotations of an image, or several images in
sequence, is important and can be leveraged for many purposes in animation. Utilizing
metaphor, applying an object, word, or idea in place of something else to suggest
similarity, is one way to embrace the strengths of the medium of animation in conducting
qualitative research. An influential project I worked on early in my graduate studies was
the ‘Motion Bank: TWO project,’ under which I was a graduate research assistant for two
years. In this project, researchers from ACCAD and OSU’s Department of Dance
collaborated with two dance companies who do improvisational performance. We studied
the choreographer’s ‘scores’ - trying to use design and animation to visualize, interpret,
and represent their processes in their minds and their bodies as they dance. The research
team on TWO created many different visual ‘objects’ that looked at the same qualitative
data through different frames. We used the strengths of our own medium - metaphor,
isolation, manipulation of time and scale - in order to shine a light on the aspects of
dancing and the processes of these choreographers to uncover that which could only be
seen through our personal lens as animation-researchers. The dance professor I worked
with challenged herself to think and communicate with us as visual artists, and we, in
turn, tried to understand the thinking of a choreographer and dancer and express that in
the ways we knew best. Animation’s characteristic elements allow an artist-researcher to
look at an idea through an unexpected lens, which has the promise of revealing
unexpected knowledge or questions.
Valuing ‘Messy Texts’

Animation, and the creative arts in general, have long placed greater value on the final product rather than the process of creating it. Partially because of society’s view of the arts as a ‘commodity’ rather than a means for “understanding the world and revealing new knowledge derived from lived experience.” (Barrett 2) The academic research community has also traditionally validated the creative arts through emphasis on the resultant artifact over the creative experience of the artist. The next practice I suggest to encourage animation as a method of inquiry and provide a means for validating creative practice as research is to place value on the physical evidence of the thinking process, or the ‘messy texts.’ I borrow the phrase ‘messy texts’ from anthropologist George Marcus who describes these writings as open-ended, incomplete, and marked by uncertainty.

(567) Norman Denzin writes of ‘messy texts’ in his book, *Interpretive Ethnography: Ethnographic Practices for the 21st Century*, that messy texts are the subjective accounts of experience which “attempt to reflexively map multiple discourses that occur in a given social space.” (xvii) Taking the stance that self-reflective creative practice in design and animation is a method of qualitative research, much like an ethnography, we can understand how the ‘field notes’ or by-products of the thinking and making processes can be incredibly valuable and informing in regards to the experience of the designer.

Storyboards are a common ‘work-in-progress’ image shown when discussing the creative process in animation, but even these are often a refined and finalized piece created *after* much thought and planning. ‘Messy texts’ as I refer to them are the jottings in journals, scribblings in sketchbooks, notes from conversations, and inspiration boards created
when forming an idea, making connections, or coming up with questions during inquiry. They are artifacts of ‘work-in-progress’ and can provide the evidence needed to make the creative process visible. There is much to be learned from looking at these documents as a physical manifestation of coming to know through the process of making. Presenting these process-products, or ‘messy texts,’ is another way to reveal the insights from the artist-practitioner and the critical process. Dancer Vida Midgelow gives us an example of this with her ‘Dear Practice...’ inquiry into the experience of improvisational dance. In this project, the ‘messy texts’ take the form of letters she wrote between herself and her dance practice. In the writing, which could be argued is not the ‘final product’ of her practice, she tried to capture the experience of dancing and devise a system for articulating her creative process. These writings, which are a supplement to her movement, are quite revealing of the critical discourses happening during her dance practice that we might not otherwise be aware through watching alone. (Midgelow, “Dear Practice”) In the same way there is much to be known about the practice and experience of making animation that cannot be understood through the final product alone. Animator Joanna Quinn, promotes the animator’s sketchbook as a research method for gathering ideas, observations, reflections, and development of a visual language. Her own aesthetic style in her pieces illustrates how she values the work-in-process elements of her practice. Her sketchy drawings with many fluid and organic pencil lines add a telling dynamic to her animation work. She writes of many lines in her drawings that, “It shows my exploration of line, my enjoyment of markmaking.” (Hosea 360) In my own personal practice, I keep records of my thinking and experience of making in several forms of ‘messy texts.’ Firstly, I use paper and pen journals to write, sketch, and diagram my
thinking before and during the making or writing processes. Figure 9 below, an image from my sketchbook, shows the pre-planning process for a portion of my animation, ‘Digya.’ I was using pen and paper drawings to generate and work through the visual ideas I wanted to create on the screen before I moved to the computer. It is clear to me through my use of arrows and symbols how I was working through ideas about movement in the piece and as well as timing. I divided the paper spatially in an effort to try and determine how I would divide the portions of the animation and music I was working with over time. This practice of generating messy visuals and notes prior to beginning the project on the computer served to jump-start my contemplation of time and space that would then be further investigated when I moved to a 3D environment. There is an ironic contrast here between my digital 3D methods of investigating and my initial 2D drawing-on-paper approach. For this project however, the pen-on-paper messy texts simply allowed me a place to generate many potential starting points for my investigation. From these points, the real inquiry - questioning and answering, problem discovery and solving – actually happened within my 3D animation software, Autodesk Maya.
I find that I am able to make connections between ideas and understand more complex concepts if I diagram them or lay them out visually on a page. I write short words or phrases, meaningless to any outsider, but that serve as reminders to me of the weighty ideas or connections I made at the moment. These visual ‘mappings,’ as I call them, have helped me during this research by acting as a record of my coming to know and understand things through my creative practice. Figure 10 below includes several examples of the way I have used spatial relationships, symbols, and lines to try and understand or work through an idea. In making these charts, I generated new knowledge, possibilities, and connections. The first image in Figure 10 is a graph I made to analyze the length of shots in a dialogue sequence from a live-action movie clip. I measured the
duration of each shot between cuts and compiled those data points into a list of numbers. To be able to really track and process what this information meant, and comprehend the impact on the film, though, I needed to look at the data visually. This graph told me something about the audience’s attention span for dialogue sequences. The editors chose to stick mainly with shorter shots, adding in a few longer holds in shots periodically. I learned from this visual analysis that maybe to tell a dramatic story we need to see the characters deliver and react to each line, even if that means many fast cuts in sequence. The knowledge gained from this visual exercise I was able to apply in future video editing work of my own, and this ‘messy text’ or chart I made is an artifact of my learning and understanding process. The next chart in Figure 10 is of a similar nature to the first. This ‘messy text’ was a visual mapping I made when working on layout for an animated sequence. I was starting from a pre-existing animatic, and I charted the different camera shots being used in order to see how often the artist returned to any particular shot. Laying out the information in this way helped me to process it and recognize patterns I might not have otherwise noticed. Observing the patterns visible in the chart, I was able to connect this new knowledge to my layout process – spending more time and effort on shots that I knew would be reoccurring and less on those that were less important. The third image in Figure 10 is different in that it did not come about during the making of one particular project. This image is a mapping I did of all of my creative works throughout graduate school, as I tried to trace my growth and understandings. These three images all have one aspect in common, that they were generated by me to assist my thinking process. In each situation I was confronted with too many data points.
to organize and observe relationships in my head, so I turned to visual ‘messy texts’ as a space to work through the ideas.

Figure 10. Examples of ‘Messy Texts’ in the Form of Visual Mappings
‘Messy texts’ in animation can include both messy visuals and messy writing. In my animation practice and creative process in general, I utilize both. As I mentioned in the previous section on the interdependence of my writing and making, I believe that informal, messy writing is a way to foster metacognition in animation researchers. I often use a written journal as a way to work through my own ideas. Keeping a written journal over the course of a project, and writing even when you feel like you are unsure or have nothing to say, is a way to preserve the thinking process as it happens. Looking back, one can trace the points where ideas were born, where connections were made, and where learning happened along the way. Whether on paper or a computer, unstructured informal writing should not be overlooked as a valuable piece of a holistic animation inquiry process.

Throughout the making of my animation works, I also keep an online journal, or ‘wiki’ page. In this page, I include reflective writings, progress images, and links to inspirational work relevant to the project. Figure 11 below includes several sample images of ‘messy’ charts I created to document my process and work through different design problems in my animation work.
It wasn’t until autumn of 2014 that I really understood how these process-products were valuable to those other than myself and that they could be additional ways of making my ‘knowing’ transparent. One project I completed where the progress journal was incredibly important, perhaps more so than the final product, was an investigation into the process of Layout in animation. I called this project informally, *The Tavern Project*. The layout stage in animation is the first draft pass of the virtual sets, props, and cameras orchestrated in a scene in order to tell the story. I was conducting a practice-led investigation into layout, camera, and staging as storytelling mechanisms in order to explore my own potential for artistic expression through this aspect of the medium.

During this investigation, I took an iterative approach and went through many stages of
the work, some of which are pictured in Figure 12 below. I chose to work iteratively partially because the nature of layout is to work in cycles with the feedback from a director and also partially due to my naivety on the subject. Starting from very limited props and models with very little detail, I slowly added complexity to the Layout sequence and used my journal to document what I could discern from each attempt.

![Iterations]

Figure 12. ‘Messy’ Visuals from ‘Tavern Project’ Documentation

I wrote about my successes and failures at each level and created diagrams and visuals to highlight what I was learning from the making process. In my notebook scribblings, I made connections between photography and cinematography fundamentals I was learning and the practice of manipulating a virtual camera in animation. In the end, the final layout sequence, or ‘product’ of my investigation, was quite lacking when judged
against commercial industry standards. But I found that experience and the knowledge I gained by carrying out these iterations and reflecting on my creative process was the real fruit of this labor, not the final video. Incorporating these ‘messy’ visuals – images from work-in-progress on the project – was another way to foster knowledge-sharing and collaboration in my work. For many projects, I used my journal and the messy texts and visuals contained within as another way to communicate with my peers and advisors. These artifacts were a way to illustrate and communicate what I was learning through my making and thinking processes. Elevating my ‘messy texts’ by making them public as opposed to private parts of my process is a way I have found to help both myself and others understand the thinking, knowing, and inquiring happening in my work.

I had matured in my making and gained a better understanding of my own creative process through this self-reflective practice of generating ‘messy-texts.’ Figure 13 below is a visual mapping I created for myself after the completion of the Tavern project. In drawing this diagram, I was trying to map how my perception of the Layout process in animation evolved over time and what new techniques and understandings I began to incorporate with each iteration of my work. I used symbols to visually represent the connections and changes happening for me, for example diamond shapes symbolize foundational knowledge I gained by studying outside disciplines like photography and live-action video production. The hexagons within the dashed circle of my layout process represent organizational techniques and skills I was gathering as tools for my work, which could be applied in any future project.
In animation, so much emphasis is placed on the final polished end product. Emphasizing the value of the ‘messy texts’ we create as side-effects of the making process is one more way to encourage an animator to be critical and reflective of their work. In this way, through journaling and other physical forms of thinking during the creative process, we can unearth more threads of inquiry and knowing in the work.
Creating without Contriving

Another exercise, though maybe not practical when working under deadlines and other constraints, to encourage inquiry in animation is to allow oneself freedom from the constraints of expectations and specified end products. Letting ourselves experiment, question, and create without an outlined end product in mind allows for a certain freedom that may result in more honest and intuitive results. Bill Watterson, American cartoonist and creator of the popular comic ‘Calvin and Hobbes,’ once said that “The truth is, most of us discover where we are headed when we arrive.” (Watterson) While this statement was meant as general life advice, given to a graduating class at Kenyon College in 1990, it also holds true in our creative work. How often have you started a project with specific goals and intentions only to find the end product to be something completely different from what you expected at the start? By exercising and embracing that serendipity that can happen through making, we may find unexpected and valuable results from our work. Many animators throughout history have worked in this way. But the nature of animation work is to have some expectations. Traditional animators create 24 frames or drawings with a specific end result in mind, a motion of some sort. They then play back these frames in sequence to ensure that the results matched the ideas in their heads. But other forms of animation, direct on film, allow for more freedom from pre-planning and expectations. In an article called, “Drawing Animation,” scholar Birgitta Hosea hit on a new and intriguing concept for me - animation is essentially a performance art.
“The act of drawing is increasingly being seen as the record of a performance, as the aftermath of an action, the trace of the presence of an artist’s body. Donald Crafton has proposed that contemporary fine art animation is in itself a performance.” (Hosea 363)

She and Crafton cite the artists working with direct animation techniques, such as etching on film or manipulating sand. They are performing with their materials, a choreographed sequence dreamt up by the artist ahead of time. What might happen if an animator strays from the set choreography and begins to improvise? This concept is not new, but one that I am proposing as an exercise in digital animation as a method of inquiry, to stop obsessing over what the product will be and focus on simply making. Creating outside of expectations, making without an end product in mind. The introduction of technology into art and design left us with an unfulfilled promise. The promise of allowance for multiple revisions, many iterations, and to borrow a term from golf language – as many ‘mulligans’ as needed. These promised capabilities are there – but what hasn’t changed is our mindset in embracing them. We still don’t work with this philosophy of impermanence. We view iterating over a project many times as a failure to succeed on the first try, not as the growing, learning experience that it is. With animation as a method of inquiry, I urge makers to employ an iterative approach to making. To allow for many cycles of creating and reflecting and to become self-aware of how they are changing and generating knowledge throughout the process. I urge them to challenge themselves to create but not contrive. This means having intentions and expectations but not pre-planning what the end results of the making will be. To allow the medium to reveal
things to the artist and to embrace the freedoms that are offered through digital animation technology.

A project I did in the spring of 2013, which is a case for this method of animation as inquiry, was called Serpentine Redux. I took this open-ended motion study assignment in a slightly different direction than most students in the course. Previous work in the class involved learning about timing, spacing, and overlap in key frame animation, walk cycles, and reinterpreting motion-capture data. Predictably, many of the students’ final projects involved animating a sequence of motion by key framing a character by hand. From my previous work with dancers on an earlier assignment, I was quite interested in the qualities and essence of motion itself and the act of improvisation. Challenging the planned and controlled nature of digital animation technology, I was trying to create something unanticipated, trying to produce compositions that I did not plan every detail of from the beginning. I wanted the pure motion of the dancer to determine the abstract animation piece, influenced as little as possible by myself and other factors of humanness. The irony in this was that I still needed to exercise some control in order to do so - I couldn’t just hand over the reins to the computer, which could not think for itself. I set up systems for the computer to generate images within. I established a 3D scene and used pre-existing motion capture data of improvisational dance performance with digitally simulated cloth attached to various parts of the skeleton. I wanted to abstract away the human representation of the dance by making the skeleton invisible and only viewing the shapes and forms the digital cloth would make when controlled by the data and simulated by the computer. My work on the project was evolving and emerging as I controlled
variables like color and properties of the digital materials – just as Charles Csuri did with his *Air Balloons*, I realized the power of these different variables to generate many possibilities in my compositions. In controlling the parameters for the cloth, I tried to match it as closely as possible to real life, even generating test footage with a live-action model to compare to my simulation. I was striving for realism in this aspect so that my influence on the look and feel of the cloth would be limited and the computer simulation would be in control of that portion. I experimented throughout the making process trying to explore what animation, computer programming, and working in a 3D virtual environment could tell us about dance motion that we could not get from watching the dance in its live, original form. I experimented with size, shape, and location of the virtual fabric. I wrote scripts to adjust color based on location coordinates and I manipulated the camera to look at the motion from many angles - all ideas I came up with during my making process. I enjoyed this process of setting up systems and allowing the computer to improvise within the limitations I had set, a theme that I would continue with other procedural animation endeavors.

![Figure 14. Stills from *Serpentine Redux*, Malory Spicer 2014](https://vimeo.com/64856476)

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11 Watch the film here: [https://vimeo.com/64856476](https://vimeo.com/64856476)
The final film is a piece of art that could be viewed without any knowledge of the creative process behind it - but to me, its value is in being a record of my coming to know, question, and understand through the making process. The conscious and unconscious choices I made in carrying out this experiment are clear to me in the final animation as well as the writing and reflecting I did after completion. The writing was an important component of this open-ended project because it gave another front for me to contextualize and theorize my work. Writing helped me to draw connections with other artists, dancers, and researchers’ work, tease out the influences present in my mind while I was working, and to articulate the nature of my creative inquiry to outside viewers.

Rudolph Arnheim, a psychologist and film theorist, writes about creativity being either intellectual or perceptual reasoning, often a combination of both. This kind of reasoning, or problem-solving, he says can happen at either the conscious or unconscious level - examples of unconscious reasoning being the “doodles we produce when our attention is blocked or absorbed elsewhere; or from the automatic writings of the Surrealists.” Arnheim notes that, “What appears spontaneously at the surface of the mind is equally interesting, equally entangled, equally in need of being teased apart by experts, but illegible to the naked eye.” (Arnheim 289) Creating without contriving is an animation exercise that would foster these interesting and entangled ideas on the edge of an artist-researcher’s consciousness needing to be investigated. In her article co-written with Laurel Richardson, Elizabeth St. Pierre challenges writers to consider writing as a “field of play,” (Richardson 969) loosening the hold of what we typically understand to be writing’s purpose and asking “What else might writing do except mean?” (Richardson
Animation provides a fertile and promising field of play as well. In using animation as a method of inquiry, I challenge artists to consider how animation has been limited and to loosen those constraints by asking themselves, “What might animation do except _______?”
Chapter 4: Conclusions & Questions – Looking to the future

In this research paper, I wanted to illuminate the notion that the self-reflective creative practice of making animation is a valuable form of inquiry through studying the work of myself and other artists, past and present. I asked how artists have challenged the notion that the states of thinking and making in the creative process happen separately and are using their practice in ways to question, draw connections, and generate new ideas and knowledge. From my own experience as an animator and researcher, I have seen how animation is a tool for the generation, exploration, and connection of ideas as well as the communication. I discovered in myself the struggle to find balance between the three states of the creative process - thinking, doing, making - and have concluded that these states are not mutually exclusive. Through my writing, I investigated the overlap between thinking and making in the creative practice of digital animation. I claim that animation as inquiry requires the artist-researcher to engage in a reflection throughout their making process – without this awareness, it is just animation practice not research. I asked about the role of writing in the process of animation as inquiry and whether it was necessary to fill the requirement of ‘reflection’ on one’s practice. Laurel Richardson’s notion of “writing as a method of inquiry” inspired much of my research, and I propose my ideas in concert rather than opposition with hers. I brought to light the need for integration of writing and making in my own animation inquiry, but from looking at the work of others
– like Michael Gondry – I’ve seen how that self-reflection and critical analysis can be incorporated in other ways.

I used my three years of study and practice in a Digital Animation & Interactive Media graduate program as an introspective case study, written in conversation with other artists, qualitative researchers, and scholars. By taking a self-reflective and critical look at my “nomadic inquiry” throughout my studies, to borrow a phrase from Elizabeth St. Pierre, I wanted to shed light on a mode of inquiry that I saw happening in animation but feel is generally unrecognized in the world of academia and scholarly writing. (Richardson 967) I was able to identify qualities present when an animator is using their making as a form of inquiry. Animation as inquiry should be reflexive, emerging, transformative, and holistic. It has the potential to contribute new knowledge in new ways that we have not yet conceived of. Animation as a method of inquiry will help to make our world visible through representation and interpretation, and if animators consciously reflect and contextualize their work, we can gain a better understanding of some of the infinite perspectives that construct our collective reality. Animation gives us a visual language to encapsulate that which cannot be captured by the language of words. With the current philosophy in qualitative research being that there is no one right answer to the problems and questions we see, animation should be recognized and utilized for its strength in constructing realities based on a researcher’s reflexive lens. From my experience and retrospective look at my work, I suggested exercises to encourage reflective inquiry in animation. Each formative animation project I discussed may not be a perfect example of animation used as a method for inquiry, because I am writing in
retrospect. Through this introspective look at my work, I hoped to pull out and illuminate the kernels of inquiry happening. I am able to see which creative activities encouraged my inquiry and where I may have been lacking. I believe writing, journaling throughout the process and reflecting afterwards, can help animation researchers to contextualize and validate their research. As an academic community, we need to better value the ‘messy texts,’ both textual and visual, generated throughout the making process in the creative arts - as that is often how artist-researcher best express their thinking, not in stuffy, formal research documents. Other activities I suggest to encourage inquiry in animation are collaborative creation - forcing one to articulate their decision making and process - and allowing for creation without expectations - which leaves room for the unconscious reasoning, knowledge, and creativity in our minds to be released. Embracing the strengths of the medium of animation, and reflecting upon why and how those are functioning, will help the artist-researcher to fully reap the knowledge sown in the process of making, which is plentiful.

Embracing animation as a method for inquiry benefits both the animator - through a better understanding of their process and thinking, and the rest of the world - who will gain new knowledge generated through new means. As a conclusion to this research and a glance towards the future, I want to end with several questions generated by my investigation.
How might animation be changed by adopting the philosophy of ‘animation as a method of inquiry?’

Animation in all of its commercial, independent, and other forms will not likely experience any total overhaul makeover by its adoption as a form of inquiry. Change in the industry will not happen quickly, but this question is worth studying and further inquiry. If the academy welcomes and embraces this unique form of inquiry, we may slowly see more funding for independent animation work as a whole. With more independent work being created and available, we will find that animation can do much more than what the commercial industry would lead us to believe. We will see animation that asks deeper questions, probes darker subjects, and pushes boundaries in new ways. With more funding for animation as a method of inquiry, we might start to see changes in the traditional pipeline to encourage more experimentation and variation.

How might we use the medium in new ways through this philosophy?

With this question, we can ideate on the potential changes to the production pipeline like I just mentioned - which would impact the medium itself. But we can also start to ask, what unrelated fields might be furthered through the use of animation as a method of inquiry? This cross-disciplinary type of animation inquiry can be seen happening slowly across research universities and
organizations around the world and I am intrigued and excited by its potential for the future.

*What are the next steps for this research?*

The next steps for this research will be to ask how we might start to teach this concept of animation as a method of inquiry. For animators to embrace this way of thinking and working, it needs to be encouraged early on and throughout their education. I aim to begin a conversation about the ways in which reflective thinking and writing are incorporated into an Art or Design program in animation. Focus needs to be placed on the process as well as the final product and students must become meta-conscious of their own ways of working. Collaboration with Art Education departments will help animation students to understand the concepts of qualitative research and practice-led inquiry in ways that they can apply it to their own work. The exercises I propose as tools to encourage inquiry in animation have not been formally tested, other than through my own experience. There is much to question and study about incorporating this way of thinking into academic life at the student level. We must start with more artist-researchers using animation as a method of inquiry and writing reflectively and earnestly about their work. My ways of working are quite personal to me, with my diverse set of perspectives, and that is why I write this research paper in such a reflexive manner and encourage other animation-researchers to do the same. Animation as a method of inquiry will thrive on artists consciously questioning
and understanding the ‘whys,’ ‘hows,’ and ‘whats’ behind the projects they make and communicating those through whatever writing, messy texts, or languages they may need. The potential for artistic practice-led research opening up new “realms of possibility” has been embraced by the academy, and it is the time now for animators to show the world how they can see and understand things in new ways through their making. (Sullivan 62)
References


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