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Human TOUCH: Storytelling through Anatomy

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Cover Page Footnote

I would like to thank my thesis committee, without whom I could not have pursued this project.

Human TOUCH: Storytelling through Anatomy

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Abstract

This study seeks to examine how the human body, particularly the hands, can be a focal point for sociologically understanding the way humans perceive themselves, each other, and the world around them. A series of conversational interviews were conducted in which participants were asked to describe their hands, what they use them for, and what associations they have with them. The aim was for the participants to share stories which would shape each unique and individual interview experience. However, in understanding more about human life and its experiences, technical analyses such as statistics and graphs are often inadequate approaches. Because of this shortcoming, visual representations of the data were created through a series of paintings. Guided by methods of arts-based research, paintings were designed to be displayed in a public forum alongside quotes from the interviews which inspired them in addition to a poster presentation of the research. As part of a trans-disciplinary investigation, one may discern the utility of presenting scientific findings through art. Through visual storytelling, this study most importantly seeks to challenge the cultural divide between art and science.

Keywords: Trans-Disciplinary, Visual Storytelling, Art, Science, Human Anatomy

Introduction

The versatility of the human body is fascinating and worthy of continued investigation. This study examines how the human body weaves common threads between art, science, and society. The particular focus is on hands. Hands are a particular point of interest because of their visible role in everyday life. The goal of this study is twofold. Primarily, it is to understand how hands may provide further insight into the way humans perceive themselves and the world around them. In a larger frame, this study seeks to challenge the cultural divide between art and science by utilizing various disciplines from both at the same time.

Conversational interviews were conducted in which respondents were asked to discuss their hands. The conversation began with, “What were your hands last used for? What comes to mind when you look at your hands?” The purpose was not to collect a list of answers but instead create a dialogue between the interviewer and the interviewee. The objective was to elicit and gather a rich, diverse, and unique collection of data from the interviewees. These participants were students and faculty at the University of Nevada, Las Vegas (UNLV). Though there were some faculty members of specific interest for this interview, such as anatomy professors or those who focus on linguistics, most potential participants were sought unsystematically. According to the *U.S. News & World Report*, UNLV is ranked among the most diverse campuses in the nation (“Campus Ethnic Diversity”). In light of this, UNLV’s population provided ample variety of background, age, and area of study for every participant. As a qualitative study, roughly twenty responses were enough to gather distinct, personal stories.

These personal stories provided a glimpse into the way people attempt to understand the complexities of the human condition. Data alone is not enough for truly understanding the experience of human life; no chart, graph, or figure can fully convey something so complex. For

example, some would say that no set of numerical data can accurately explain what it feels like to fall in love. When this happens, many often look to art for answers.

The visual arts attract people for many of the same reasons people turn to poetry and films. Creative works transcend human mortality. Even after death, an artist's work remains in humanity's archive. People will always continue to create art under the assumption that their work will outlive them; many turn to art to leave a piece of themselves behind, as an insurance of longevity. This series, "Human TOUCH: Storytelling through Anatomy," is no exception. It is a tribute to this finite time in space and a tribute to this special community here at UNLV in this very unique city.

A series of paintings were created as a visual interpretation of the responses of the interviewees. Each canvas represents one of the different outlooks of the hand, rooted in the histories of people. While every participant was anonymous, and none of the included quotes were identifiable, the paintings were inspired by every interaction.

Trans-disciplinary studies can transform the manner in which the disciplines are viewed. These studies attract more diverse audiences and even lead to the reconsideration of the way one learns and educates others. People may begin to find themselves in learning environments that are more inclusive, developing a greater sense of belonging. As a result, overlap and interplay between two interests begin to form.

Background

At the center of the creative process, as well as the scientific method, lies investigation. Both processes begin with a question one intends to address through experimentation and creation. Both processes involve constant revision and cyclical visits to the drawing board. The artist and scientist both require a degree of imagination during the pursuit of the uncharted. This

comparison between art and science was well described in Princeton University art historian Allan Marquand's paper, "On Scientific Method in the Study of Art," published in 1889. In his paper, Marquand propounds that art strives to fill gaps and missing links within knowledge (para. 22). In this, art can be compared to science, in which both often have end goals of addressing gaps. According to Marquand, "the arts do not aim to impress the senses merely, but through sense impressions to arouse the higher forms of consciousness[:] memory, understanding, imagination, emotion and will" (para. 12). Thus, there is a larger purpose of art beyond simple aesthetics. In both art and science, there is also a sense of continual improvement. For example, Charles Darwin's *Origin of Species* later influenced the evolutionary study of architecture in *Development of Christian Architecture in Italy*; Greek art is considered "dependent upon the Orient for almost the entire series of its forms" (Marquand, para. 15). This indicates there may never be a sense of originality in art, as there is none in science. In both fields, progress is built upon and influenced by past discoveries. And in both areas of study, advancement rests on drawing conclusions, sharing new findings, and propelling further discussion.

In light of these similarities, arts-integrated science curricula in primary and secondary schools have been substantially studied. Researchers at the University of Newcastle, Australia have introduced a concept known as a "boundary object" on the discussion of this integration. According to this study, a "boundary object" is defined as, "objects that can be read by both artists and scientists... [which] can facilitate the generation and communication of ideas within both art and science discipline fields and are able to operate across epistemological boundaries" (Grushka et al. 71). I interpret this as objects situated in the center of the Venn diagram between art and science. There are objects or areas of study that can prompt conversation from scientists and artists alike. There are objects not so esoteric that only scientists can discuss them or vice

versa. They are spatial interfaces of seemingly clashing disciplines. A High Performing Student Program (HPSP) at an Australian Regional University exemplifies this idea in an “art-based inquiry” which uses creative approaches to investigate a central question. A case study follows one student in this program who uses videography, photography, and design to study and document the effect of ice on plant biology (Grushka et al. 76). By using these creative modes for data collection and analysis to study plant biology, this student’s study itself becomes a “boundary object” which suggests a novel benefit of trans-disciplinary presentation. These explorations, such as the HPSP program, show the potential of novel methods of teaching and challenges the conventions of science education.

The “boundary object” of interest in this study is the human body. The human body possesses a unique duality because it can be studied from different viewpoints. From a scientific standpoint, the human body was studied to better understand its anatomy and physiology. The most famous “Renaissance man,” Leonardo da Vinci, was one of the most important contributors to medical illustration and education. According to Martin Kemp from the University of Oxford, da Vinci’s illustrations were decades ahead of his time (para 2). In his paper, “Leonardo’s Philosophical Anatomies,” Kemp analyzes how the Renaissance man’s sketches were far beyond what the current medical practices entailed.

Consider Figure 1, which is one of da Vinci’s interpretations of the female body. The writings in the margins suggest an extensive deliberation behind the organs da Vinci sketched. The complex subject is an amusing contrast against the battered parchment paper, supporting that the polymath was in fact ahead of his time. Interestingly, the portrayal of the reproductive system bears no more than a faint resemblance to the actual uterus. Nonetheless, new frontiers of the Renaissance (including cadavers and animal dissections) and influences from the likes of Roman

physician Galen and Flemish anatomist Andreas Vesalius, allowed da Vinci to conduct unprecedented analyses of systems and organs of the body (Kemp, para. 3).

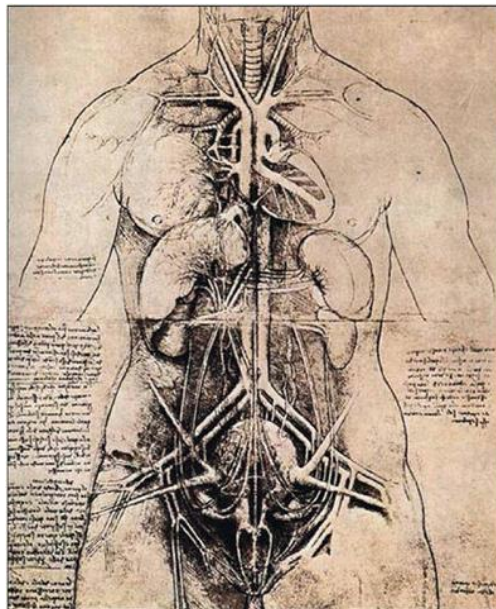


Figure 1. Leonardo da Vinci's study of the female body from: O'Malley CD, Saunder CM (2003) Leonardo da Vinci on the human body. Gramercy Books, New York

In addition to anatomy, the human body can also be studied artistically. Often the human body is portrayed in art in some manner of social commentary. The body became a particular point of interest during the last century when corporeal sociology, sociology of the body, arose. The French philosopher Maurice Merleau-Ponty first coined the term “body-subjects,” which described the human being as being inseparable from the human body (Howson and Inglis 303). The idea of “body-subjects” is similar to a concept da Vinci posed while studying the body: *il concetto dell'anima*, or “intention of the mind and soul” (Kemp, para. 7). In this philosophy, the body is an apparatus that projects intentions and thoughts of the mind. Thus, to study the human body is to study the experience of life.

To further explore this, hands were the specific focus of this study. Hands say a lot; they allow for touch, in more than one way. The versatility of hands belong to the human species alone. Seemingly, the entire history of humanity can be told through hands. A relevant point of entry into the history of hands would be Ancient Rome. During this time period, hands became an interest in the context of rhetoric. In his treatise, *Institutio Oratoria*, educator and rhetorician Quintilian examined the role of gestures in being a strong, powerful orator. In particular, Quintilian pondered that:

The hands may almost be said to speak. Do we not use them to demand, promise, summon, dismiss, threaten, supplicate... Have they not the power to excite and prohibit, to express approval, wonder, or shame? ... In fact, though the peoples and nations of the earth speak a multitude of tongues, they share in common the universal language of hands. (qtd in Thayer 291)

Hands, to the Romans, were vital for the efficacy of oration. They were not meant to replace words: they were used to emphasize what spoken words already described.

Hands can provide extensive understanding of human nature. Universal gestures transcend any barrier of language. Erect hands with palms touching are an understanding of worship and prayer; a fist in the air often expresses triumph and power. Since the Civil Rights Movement of the 1960s, it has also represented Black Power in America. However, while the sociology of the hands, and their depiction in art, has been given substantial consideration over different time periods, few works focus on their diversity within the same moment in time. This study seeks to take a microscopic approach in understanding the human hands. While hands may represent different ideas to different groups, the aim of this project was to understand the discursivity of hands between individuals.

Methods

The narrative interview has been thoroughly examined by scholars Holstein and Gubrium in their paper, “Animating Interview Narratives.” According to Holstein and Gubrium’s studies, almost all social sciences investigations involve interviews (150). The traditional interview may often be seen as a neutral monologue in which the respondent passively participates. It is highly structured and follows a precise system. However, an interview transforms into a conversation when structures dissolve and a natural fluidity takes place. It is in this place that one can truly interview respondents in their authenticity and experiences. The importance of treating the interview not as an impartial investigation, but rather as a social exchange is emphasized. Within this newfound dialogue, the heart of the human circumstance can be approached. Only when the interviewer is no longer detached from the respondent, and when the researched coalesces with the researcher, does the interview become a conversation.

Conversational interviews were conducted based on these guidelines. These interviews took place on campus at UNLV. There were several question-stems that began the interview, including:

- 1) What do you use your hands for?
- 2) When are you most aware of your hands in the day?
- 3) When are you most aware of your hands at night?
- 4) Are there particular words that come to mind when you think of your hands?
- 5) In what ways are your hands important to you?

It was expected that the original question would not be as important as the follow up questions. It was through the follow up questions that the interviewer and the participant could truly engage in visual storytelling; the follow up questions proffered the deepest, most interesting

responses. These responses gave the greatest sense of the participant's identity. Since every participant was expected to have variable responses, the follow up questions were intended to shape each individual interview experience. These questions included, but were not limited to:

- 1) Are there particular memories that come to mind if you consider your hands for a moment?
- 2) Are there certain, unique activities in your daily life which require the use of your hands?

With data collection, there were intended no flyers or ads seeking participants in recruitment. Creating the most authentic dialogue was expected to come from an impromptu conversation where one cannot prepare a response prior. Having no flyers also eliminated possible sample bias from those who deliberately reach out. Instead, potential participants were simply approached around campus in open areas. There needed to remain a degree of extemporization in order for the interview to flow as a natural conversation.

This study was also conducted through the method of arts-based research. *Handbook of Arts-Based Research*, edited by sociologist Dr. Patricia Leavy, elaborates on what this more recent approach to research entails. The primary advantage of arts-based research is that it “offers a possibility of taking research in directions that science alone cannot go” (Leavy 311). Representing science through visuals, such as films, paintings, cartoons, and diagrams adds a different aspect of the data and can open conversation for multiple interpretations. As Leavy maintains, “Art can break through common resistance and force us to consider new ways of seeing or doing things” (313). Through the use of conversational interviews and arts-based research, this study aims to generate such consideration.

Results

A total of nineteen conversational interviews were conducted over a span of roughly five weeks. As a qualitative study, the number of responses did not matter as much as the content of the responses. These participants ranged from professors to students across campus to close friends of the interviewer. As it had been hoped for, the content of each interview was shaped by the individual's daily life and factors such as extracurricular activities, childhood, and current discipline of study at UNLV. During the interview, notes were taken (some verbatim, some paraphrased) as the interviewee shared his or her story.

As it was found, no two interviews followed the same pattern, nor was there truly a template for how these conversations continued. The notes were taken from the notebook and consolidated onto a table. The following is a compilation of one-word descriptions which summed up the interview as concisely as possible and were provided by the participants:

Table 1. Primary Descriptions of the Hands Based on Interview Data.

<i>Cradle</i>	<i>Work</i>	<i>Pleasure</i>	<i>Luxury</i>	<i>Tools</i>
<i>Structure</i>	<i>History</i>	<i>Balance</i>	<i>Human</i>	<i>Create</i>
<i>Outlet</i>	<i>Dexterity</i>	<i>Grab</i>	<i>Sensual</i>	<i>Holding</i>
<i>Identity</i>	<i>Machine</i>			

The interview content was not only rich but incredibly diverse. There was hardly any overlap between participant responses. As such, there were no ideas that seemed to immediately emerge from the data. Several of the interviews shared an allusion to “connection” and “contact.” However, there were no large categories of easy identification, nor was there much repetition. What was particularly interesting is the juxtaposition between different interviews. For example,

there was an intriguing contrast of one's description of the hand as a "machine" vs another's description of "human." There was also an amusing dichotomy between "tool" and "cradle."

After the interviews were completed, five descriptions stood out the most: *Human*, *History*, *Machine*, *Identity*, and *Contact*. These were of particular interest due either being the most intriguing or because they offered the most inspiration for painting ideas. Although there had been an intention to paint the most frequent responses in order to represent the greatest generalizations from the data collection, it became clear that this was impossible—there simply was a high frequency of any one-word description. Because of this absence, I was left with full discretion over how the paintings would ultimately represent the data

The creative process began with thumbnail sketches which were kept in a sketchbook and led to the eventual creation of five oil and acrylic paintings on 18" x 24" canvases. These paintings were inspired by unique bits and pieces of the interviews, each requiring roughly three weeks to a month before finally rendering a feeling of completion. However, these paintings were not created in a linear fashion, and at any given time at least two of them were concurrent works in progress. The following is the final culmination of "Human TOUCH: Storytelling through Anatomy."



Machine

Acrylic and oil on canvas on 18"x24" canvas

“When you break down the musculoskeletal system, it’s basically just a bunch of pulleys and levers. It’s a really phenomenal way of taking a mechanical system and optimizing it. There’s a large force production generated onto such a small mass and surface area - it’s brilliant.”

“When I look at someone walking, I see what the muscles and bones are doing. It’s like, and I tell my students this, that I peel back all the layers and I have x-ray vision. And in the clinical setting, it’s kind of a superpower. When someone tells you where something hurts, and you ask, how deep? You know exactly what is happening in that area.”



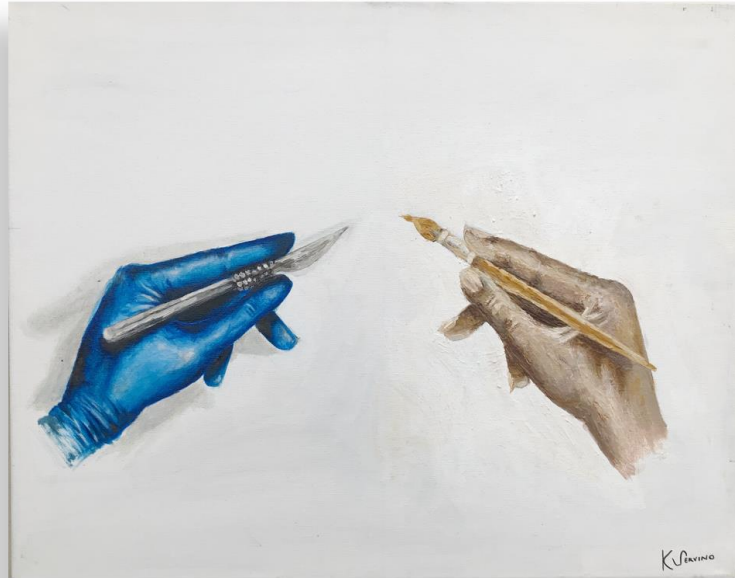
History

Acrylic and oil on canvas on 18"x24" canvas

“You can tell a lot about someone through their hands. You can look at the hands and learn something about a person’s life, like hard labor.”

“You can analyze a person’s character by their handshake.”

“Hands are a big giveaway as to how people are feeling, such as if their hands are shaking if they’re nervous. Arms crossed, shows that you are taking information in.”



Identity

Acrylic and oil on canvas on 18”x24” canvas

“There’s a reason why we say, *I know something like the back of my hand.*”

“It’s wonderful to me that everyone has hands but more so that everyone can choose what to do with their hands —surgery, fighting, music.”

“Not everyone has hands, those that have hands can paint, hold someone, and manipulate objects using five digits very precisely. Never take hands for granted.”



Contact

Acrylic and oil on canvas on 18"x24" canvas

“Hands provide a point of contact - for both pleasure and pain.”

“There’s an abundance of nerve endings at hands, fingertips, which allow human beings to experience life to its fullest in such a way indescribable.”

“God gives me a helping hand with life, assisting me when I’m falling down and I need help. His hand is there reaching out and picking me back up again. The thing that helps me get through hard times.”

Discussion

This study aims to illuminate the significant future direction of transdisciplinary investigations such as this. There is promise in integrating art and science into common spaces, especially in educational practices. According to the study, “The Scientific Method and the Creative Process: Implications for the K-6 Classroom” published in the *Journal for Learning through the Arts*, art can promote higher level thinking, especially in early levels of learning (Nichols and Stevens). This study characterizes Learning Through the Arts (LTTA). Since its formation in 1999, LTTA has been a nationwide study on schools that places emphasis on a curriculum with more creative, qualitative forms of learning. The researchers were interested in whether creative outlets could be useful ways for stimulating interest in other subjects. By integrating art in different forms of teaching, students can become more engaged and retain information better.

The value of art integration was explored by testing out several creativity-based activities in the classroom. For example, for kindergarten to third grade classes, concepts were taught by likening a plant’s life cycle to certain symphony sequences or using theater games to teach the differences between omnivores, carnivores, and herbivores. Creative dramas and art encourage student curiosity, help students remember concepts, and more importantly understand them. For upper grades (fourth to sixth), activities included understanding the elements of the periodic table by using various percussion instruments to represent metals and nonmetals and observing how elements often interact with each other (Nichols and Stevens 8). These methods of teaching concepts in grade school can stimulate students’ potential interests in both science and art. Encouraging future teaching styles such as these is a start. There’s value in maintaining creativity and curiosity in children, and one would argue that both science and art is necessary

for doing so. This study intends to provide further proof of this value and invite conversation of its importance.

The blatant distinction between art and science alludes to a perhaps deeper issue of society: boxes. Minnesota State University sociology professor Dr. Charon clarifies this human proclivity in his book, *Ten Questions: A Sociological Perspective*. The human inclination is to make meaning through categorization. That is, meaning is assigned by mental compartmentalization. Charon clarifies:

Human beings categorize their environment; that is, we isolate a chunk of our environment, distinguish that chunk from all other parts of the environment, give it a name, and associate certain ideas with it. Our chunks—or categories—arise in interaction; they are socially created. (303)

It is quite natural for one to operate under the usage boxes. One will group like ideas together, which then create heuristics for unfamiliar encounters of the future. For the most part, this sort of internalization is foolproof.

The caveat however to these boxes are its edges. These can create preconceived expectations and notions. There are the boxes of gender. Boxes of race. Career. Ethnicity. Boxes of college majors. There is one for art, and one for science. There is a box for almost everything and anything, and its edges act to confine. And if nothing else, this study was conducted in hopes of transcending the boxes society perfunctorily creates.

Unlike a purely scientific exploration, the conclusion of this study cannot be determined completely by the researcher. The one who views the paintings and the accompanying quotes is who can truly answer this question. Each painting has a story embedded in it, thus forming a dialogue with the data. They each have their own unique history, left up to the viewer's construal. When viewers come up to these paintings, they may consider the use of their hands in their own lives. There is much about the human experience that no research can ever truly

quantify; however, by reflecting the research onto art, many may learn a little more about themselves and others through visual storytelling.

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