

Haptic Tactics: Incorporating Traditional Skills in the Digital Animation Studio

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Abstract

Working in the animation industry today typically necessitates using digital tools, occupying seats on a software subscription service provided by the studio, but not all animators employ these tools exclusively. Analyzing interviews with animators who fell in love with drawing or sculpture before finding a career in animation, this study explores how and why they persist in an industry that seems to alienate as much as it enchants. While many find digital tools vital to their own work, the pressure to keep up with a diversifying array of software is made all the more difficult by myriad abstract interfaces composed of windows, icons, and pointers. The dominant strategy in the development of these digital tools remains oriented around optical interfaces, but animators improvise tactile tactics around and within the studio's systems. The tactility of traditional tools enables creative processes, and demonstrating mastery is vital for cultivating a reputation as a creative. On the other hand, demonstrating technical and professional expertise with digital tools is critical. In a career where contracts tend to be short-term and moving between studios is frequent, animators must mobilize their education, portfolio, and reputation to demonstrate both professionalism and creativity. Analyzing interviews with thirty animators based in Atlanta, Georgia, this study argues animators enjoy the autonomy to incorporate the traditional and tactile into the otherwise purely digital pipeline and do so in surprising ways, suggesting that these skills have adapted to the cultural expectations of what it means to be a creative professional.

Key Words: Ethnography, Discursive Analysis, Animation, Media Industry, Strategies/Tactics, Social Capital, Production Culture.

Introduction

Animators tend towards precarious employment, where only a few elites manage to land long-term contracts, while others endure long hiatuses between jobs. In spite of this, they regularly report enjoying their work, preferring a creative career over something more stable. Cynical interpretations of this phenomena chalk it up to ideological conditioning, the sunk-cost fallacy at work. Kathleen Kuhn and Thomas Corrigan, for example, argue compensated labor performed in the hopes of future employment is “largely not experienced as exploitation or alienation,”¹ implying that subjects fail to recognize the conditions of their exploitation due to some

¹ Keuhn & Corrigan, 2013, pg. 9.

ideological veil. French sociologist, Pierre Bourdieu, chalks this up to phenomena he called *illusio*: "to admit that the game is worth playing and that the stakes created in and through the fact of playing are worth pursuing; it is to recognise the game and to recognise its stakes."² This led some researchers to ignore participants' genuine enjoyment in the production process, instead claiming they are caught up in some form of social parlor trick, while others lament digital technology's power to enchant, deceive, and control the masses.³ Michael Siciliano adapts this theory to explain why engineers in the music industry put up with low wages and precarious conditions, arguing the cool atmosphere of the studio and the regular rotation of cutting-edge gear enable states of pleasant concentration, sweetening the working conditions without fully masking its bitter aftertaste.⁴ However, Siciliano primarily focuses on the gear supplied by the studio, but animators in this study brought their own tools to work or improvised with office supplies, activities informed by their need to mobilize social capital in the form of their reputation, portfolio, education, and online presence.

These strategies are imposed from the top down by social media platforms and the studios that use them to review portfolios, producing, quantifying, and exposing creative laborers to a global marketplace. Michel de Certeau distinguishes these strategies from grassroots tactics, which improvise, manipulate and divert resources for new uses.⁵ Lev Manovich argues digital tools allow for ubiquitous "hackability and remixability," and therefore tactics can no longer be considered "outside of the system."⁶ Social media, for example, has found a way to derive a profit from the tactical activities of everyday drive to socialize. Manovich also contends mankind oscillates between haptic and optic modes of understanding the world, with the move towards the photorealistic in media representing shift towards the optical, as opposed to a haptic sensibility informed by texture.⁷ The haptic refers to the somatic components of audio-visual information, sound-images which trigger the desire to touch the subject onscreen. Media can demand distance or draw the eye inward as a haptic compulsion.⁸ This suggests the industry's shift towards ultra-realistic digital animation rendering digital technology ubiquitous represents a move towards the optical as the dominant strategy in the creative industry, while haptic tactical modalities link the professional with the creative.⁹

The studio strategies remain oriented around the production of commercially successful intellectual property, which can be monetized across a variety of products. The tactics of the

² Bourdieu, 1998, pgs. 76-77.

³ Siciliano, 2021, 5.7%.

⁴ Ibid., 6.1%.

⁵ de Certeau, 1984, pg.. 30.

⁶ Manovich, 2009, pg. 325.

⁷ Manovich, 2001, pg. 219.

⁸ Han, 2019, 10%.

⁹ For Manovich, the CGI worlds were too polygonal and amateurish to be considered optical and systematic, thus much of new media falls into the haptic category as a product of its roughness. (2001, pg. 220.)

animator are a little more obscure, inventing methods to engage themselves while remaining employed. Their position at the studio relies on social capital in the form of reputation, education, portfolio, and acumen. This study delineates professional social capital from creative social capital; the former legitimizes one's role as a skilled and reliable worker, requiring regular demonstrations of expertise, while the latter involves presenting surprising, novel, or artistic methods for accomplishing tasks.¹⁰ In part, this is responsible for the regime of interactive intensity many creative laborers endure. In which one is always expected to be "plugged in" for professional purposes, be it training, retraining or networking. However, digital proficiency does not always translate to creative social capital, which demonstrates one is an authentic artist.¹¹ Some studios still perceive traditional skills as indicators of authentic creativity and mastery.¹² Animators must selectively cultivate both forms of social capital to navigate the contradictions inherent in the industry. The movement across the gap of tradition and innovation becomes vital for those seeking vantage points on either side.¹³

Objective

- To explain the ways digital and traditional tools contribute to the aesthetic and somatic pleasure of practice, and how this enjoyment is rendered ambivalent by these same instruments.
- To explore how social capital in the form of education, expertise, and reputation inform how animators persist in their precarious, freelance career, and how digital versus traditional tools articulate this process.
- To delineate the ways animators improvise and hybridize traditional and tactile tools that fall outside expected studio's strategies for a digital cultural ecosystem, to observe how these tactics have become hybridized and incorporated into the studio system.

Site

Little scholastic attention has been devoted to the cultural industries outside a few coastal elites such as New York City, Los Angeles, and Vancouver; this study investigates animation as a culture of production in Atlanta, Georgia.¹⁴ Serving as an intermediary city, it captures resources in the form of creative laborers and runaway production to sustain itself in a post-industrial

¹⁰ Ibid., 433.

¹¹ This is a pun drawn from Martin et al.'s research on children bidding for parental attention, interactive intensity referring to the vigor in which the youth seeks interaction, with low interactive intensity relating to unobtrusive and solitary behavior. (Martin, et al., 1981, pg. 1064.)

¹² Liboriussen, 2015, pg. 433.

¹³ Outka, 2008, pg. 12.

¹⁴ Curtin, 2011, pp. 38.5%

economy centered on the production of intellectual property.¹⁵ This process is heavily influenced by the entrepreneurial ideology imported from California's media and technology industry, where digital exceptionalism flourishes, leading to a disconnect between the interests of the locals and the global companies which set up shop in their neighborhoods.¹⁶ The optimal location for studying the strategies of creative laborers ensnared between global cultural and commercial hierarchies, Atlanta is a creative capital in-between these influences.

Beginning with the entrance of Turner, in the late nineties and early aughts, Atlanta's inchoate animation industry consisted of small studios producing content for Cartoon Network and Adult Swim. The success of the latter's after-hours programming is largely attributable to the city's status as a black mecca.¹⁷ For example, one of the theme songs for Adult Swim's flagship series, *Aqua Teen Hunger Force* was written by one of the pioneers of gangsta rap, Schooly D.¹⁸ The show also featured a black voice actor, Carey Means, for as Frylock. In 2007, Williams Street's SVP Jason DeMarco established Williams Streets Records, teaming up with Cartoon Network to produce independent hip-hop artists and compilation albums. Killer Mike, "Atlanta's Grammy-winning elder statesman of rap"¹⁹ contributed to a single to the *Aqua Teen Hunger Force* movie soundtrack and was a voice actor in *Frisky Dingo*. Flying Lotus' music was used for a promotional push for *The Boondocks*; he became one of the most well-known electronic musicians around the globe by 2014.²⁰ By exposing local black talent to a global media market, Adult Swim branded themselves as iconoclastic, urban, and black.

Adult Swim firmly established animation in Atlanta as the anti-northern industry, combating a refined globalist regime with very deliberate southern grunge.²¹ Animation in Atlanta is also cheap to produce thanks to tax incentives and anti-union legislation; two 15-minute episodes of Adult Swim cost \$150,000.²² As noted by Karen Cox, researching the South in the United States is comparable to attending a sideshow at a county fair; the spectacle both repels and amuses.²³ John Reed contends that local southern values continue to play a role in the construction of national media, but the South did not use mass media to maintain its own regional and cultural values, assigning the corporate globalist aesthetic as Northern phenomena.²⁴ While their relative freedom from corporate censorship gave them unprecedented creative freedom, a frat-house

¹⁵ LaRoche, 2008.

¹⁶ The Web 2.0 delineates the internet of 1997-2001 from the "2.0" era, characterized by a renewed emphasis on "transparency, participation, and openness." (Marwick, 2013, pg. 6.)

¹⁷ Ryan, 2006.

¹⁸ Ibid.,

¹⁹ Stutz, 2012.

²⁰ Barnes, 2014,

²¹ "Outsiders also tend to associate Atlanta with reality TV, trap music, and strip clubs." (Rodney. 2016).

²² An episode of *The Powerpuff Girls* had a budget of \$500,000, while primetime animated shows like *The Simpsons* went for twice that amount. (Kempner, 2001.)

²³ Cox, 2011, pg. ix.

²⁴ Reed, 1972, pg. 86.

culture also emerged within these studios.²⁵ Cartoon Network alumni, Adam Reed and Matt Thompson, formed 70/30 Productions in 2000. They founded Floyd County Productions the same year 70/30 closed in 2009 with their show *Archer* running for well over a decade. Scott Fry and Craig Hartin, both animators on *Sealab 2021*, would go on to establish Radical Axis and Bento Box respectively. Other animation studios began appearing simply because of the presence of Turner. Primal Screen setting up shop in Atlanta in 1996 to be closer to their favorite client.²⁶ Ashley Kohler, who had been a part of Cartoon Network's team since 1998, started Awesome Inc. in 2005. This list of studios serves to illustrate the impact Turner, Cartoon Network, and Adult Swim had on the Atlanta animation industries. As the decade edged forward, however, Adult Swim came under increasing pressure to enlarge the franchise while still trying to keep productions small and cheap. By January 2011, Atlanta-based animators were responsible for a third of Adult Swim content; by June 2015, this proportion decreased to a quarter. Today, virtually all of Adult Swim's animated content is outsourced to studios in Burbank and New York.

Method

During in-depth interviews with animators conducted over the course of a year, participants divulged their experiences working at a studio and residing in Atlanta. Twelve of these thirty had remained at the same studio for more than two years. The remaining individuals moved from short-term contract to short-term contract, working from home or relocating from workplace to workplace. While all twelve studio-based participants worked on animated content, not all of them are categorized as "animators" by industry standards, but also background designers, composers for animated content, riggers, and illustrators. A few individuals with animation degrees and/or industry experience transitioned to full-time employment in animation-related fields such as motion design, game design, and visual effects. Some worked on television programs, but the majority produced digital content for advertising and streaming. 46.66% were in their twenties, 36.66% in their thirties, and 16.33% were over the age of forty. The majority of participants were white, followed by African Americans, Asians, and Hispanics. At the time of the interview, 56.66 percent identified as female, while 43.33 percent identified as male.

The average age of participants was the late twenties and early thirties and ranging from twenty to over fifty. Everyone had a bachelor's degree or vocational training with some possessing advanced degrees in animation. The duration of interviews varied from thirty minutes to four and a half hours, with an average of ninety minutes. These interviews covered twenty-five pre-written questions; however, participants frequently strayed into topics that would be inquired about later, resulting in the omission of questions and reordering on the run. The majority of

²⁵ Cohen, 2005.

²⁶ Porter, 2009, pg. 57.

interviews were conducted via Google Meet, as many found face-to-face interviews undesirable due to convenience and anonymity. All interviews were recorded and transcribed.

Theoretical Framework

This study divided and categorized these transcriptions according to broad categories, following Grounded Theory's spiraling approach, in which narrower groupings became components of grander themes.²⁷ These themes were arranged into productive dualisms, including enjoyment vs. alienation, traditional tools vs. digital software, tactility versus opticality, and practices imposed from the top down (strategies) vs. bottom up (tactics).²⁸ Critical reflective processes benefit from dualistic positioning in that they explore the conceptual limits or discursive closure of a topic.²⁹ Poststructuralist theorists have criticized the use of dualistic categories, which can constrain knowledge produced before the fact, confuse categories for concrete reality, and uncritically reenact embedded social hierarchies.³⁰ Nevertheless, dualistic theorization has also been utilized by scholars working to critique such hierarchies in the arena of race³¹ and gender.³² Criticizing complex expressions of hierarchy, such as the ways these structures of thinking embed themselves into modes of everyday speech and thought, requires developing an approach that reflexively interrogates the origins and historical formation of such categories. Dualistic categories serve as a means to sort or understand patterns of performances or iterations across participants, but need not restrict knowledge-production when coupled with a sufficiently reflexive approach.

Participants provide data for micro-level analysis, comparable to describing a location on foot, whereas macro-level analysis would be comparable to charting a city from a jet aircraft.³³ To continue this analogy, this research follows a mid-level "helicopter" view, in which one can appreciate the details obscured by the jet's height and speed, but still with enough height to appreciate the overall layout. A study at the intermediate level focuses on social forces as they are experienced and communicated by participants. It also includes a professional perspective to describe industry discourse and practices. This is imperative due to the fact that the animation industry is influenced by the unrelenting explosion of technological innovation and cultural shifts. From poorly understood yet potent digital tools to the overwhelming force of the market, the ethical frameworks and values of the profession are perpetually shifting. Although this qualitative approach is not suited for making general claims that neatly apply to a global

²⁷ Bryant, 2017, pg. 96.

²⁸ Dualistic theorization is an ancient method for structuring arguments, as Plato positions form against substance and Kant delineates the sublime from the beautiful. (Rehn and Borgerson, 2004, pg. 457)

²⁹ Rehn and Borgerson 2004, 456

³⁰ Knight, 1997, pg. 4.

³¹ Gordon, 1995.

³² Butler, 1987.

³³ Havens, 2009, pg. 239.

industry, it does provide a nuanced view of the specific circumstances and opportunities these professionals face.

Early examples of such approaches applied to the cultural industry includes Leo Calvin Rosten's *Hollywood: The Movie Colony, the Movie Makers*³⁴ and Hortense Powdermaker's *Hollywood the Dream Factory*.³⁵ Hesmondhalgh and Baker examine three distinct areas of the cultural industries, namely television, music recording, and periodicals, in order to develop a comprehensive theory of ethics and labor.³⁶ Game development,³⁷ web design,³⁸ and other animation-adjacent industries have undergone mid-level analyses.

Analysis

While the animation industry firmly prioritizes digital tools because of their adaptability and capacity to automate tasks, many animators employ traditional media to maintain a tactile connection with their otherwise abstract workflow. For instance, Tanya, a 27 year-old animator with four years of experience at a small studio, specializes in 3D animation production, but software was low on her list of indispensable tools. She prefers to begin with a mechanical pencil, .57 lead, printer paper, and the advertising agency's scanner. She also brought her own lightbox, insisting traditional methods are better for the creative process. "I can capture more motion, traditionally. I'm fine drawing at a computer but I can't really let loose and get my ... what I want the shape to *feel* like." Tanya's focus on sensation highlights the need for haptic feedback in the creation of animation or instruments with consistent tactile qualities, such as the weight and friction of a pencil. The pencil and paper enable her to sense the movement of the object, associating traditional media with what Mihayli Csikszentmihalyi calls the incubation phase of the creative process.³⁹ Active sketching facilitates the creation of mental models through a process that combines intuition and drafting. By virtue of their incompleteness, these half-drawn figures represent concepts and connections that must be investigated prior to committing. Experienced users of both digital and traditional media, such as Tanya, employ digital tools to refine initial designs, but drawing it out remains a vital tool for incubation regardless of the software. Drawing diagrams, graphs, charts, and scribbles aids in problem-solving, comprehension, and deduction.⁴⁰ Drawing and animation remain inextricably connected contends Glenn Vilppu, because the former enables the methodical planning of a concept's visual representation.⁴¹ Studies on the drawing practices of architects celebrate "architectural

³⁴ Rosten, 1941.

³⁵ Powdermaker, 1979.

³⁶ Hesmondhalgh, 2013, pg. 14.

³⁷ O'Donnell, 2014.

³⁸ Kennedy, 2012.

³⁹ Csikszentmihalyi, 1996, 17.0%.

⁴⁰ Suwa and Tversky, 1997, pp. 241–254.

⁴¹ Vilppu, 1998.

perception" as a form of kinetic and tactile mode of reception,⁴² or hailing their mastery of diagrammatic design reasoning.⁴³

While Tanya finds sketching to be more liberating, clients typically view training in traditional media as evidence of creativity.⁴⁴ Sketching in the midst of a presentation serves to demonstrate expertise and increases the project's desirability.⁴⁵ This is not to imply a line drawn with a trackpad is less creative than one with a pencil, as such an argument would obfuscate the reality that sketching remains an essential component of digital media and computer animation.⁴⁶ Thus, traditional skills correlate with the production of creative social capital, whereas haptic tactics enhance their applicability to professional strategy and preserve their reputation as authentic skills in an era where digitization threatens their obsolescence.

Gradually, haptic digital tools like Sketchpads, Apple Pencil, RAND, and WACOM tablets render the translation of traditional skills to digital media easier. The existence of these devices demonstrates that drawing is an essential element of the animation process, even for fully 3D films.⁴⁷ Dan, in his fifties, began as an illustrator for some of the earliest Adult Swim programs, but he preferred animation because he relished producing more drawings per day. He has used his mastery of drawing to accrue the creative professional capital necessary to become the director of a feature-length film animated in CGI. He relies on others to traverse the 3D animation software, having specialized exclusively in 2D tools such as Toon Boom Harmony.

Dan insists he creates "hand-drawn" storyboards, but his "actual hands-on work ends once it hits the screen," implying that hands play a significant role in establishing oneself as an authentic creative or producing creative social capital. Even though Dan moves comfortably between traditional and digital modes of production, making use of a WACOM tablet allows him to utilize skills acquired over a lifetime of drawing. Tanya also sketches the character's motion paths with a pen and pencil to experience the movement of the subject as her hand creates a spatially coherent diagram. The informal sketch connects imaginative play to the production process, preventing the premature conclusion to creative exploration. In this sense, sketching is its own form of cognition with an unknown outcome. Through this schematizing, creative laborers can articulate imaginative faculties to legitimize their role as a creative designer, directly tying the process to their hands.

The focus of research on the effects of technology on the labor process has focused on ways in which the knowledge professions were destined to increasing layers of regimentation, resulting

⁴² Benjamin, 2019. pg. 240.

⁴³ Goldschmidt, 1991, pp. 123–143.

⁴⁴ Liboriussen, 2015..

⁴⁵ *Ibid.*, pg. 428.

⁴⁶ Hosea, 2019. pg. 355.

⁴⁷ Holliday, 2019., pg. 163.

in pervasive "deskilled" employees united in their precariousness.⁴⁸ The argument asserts that such digital software abstracts the labor process, rendering processes as dissimilar as baking bread and installing conduits equivalent via electronic interfaces.⁴⁹ Crafts that previously necessitated the management of diverse tactile tasks have been compressed into an interface, with a complex reality reduced to windows, icons, menus, and cursors, or "WIMP."⁵⁰ Digital tools can automate processes, but they can also be used to bridge the experiential divide between electronic and traditional animation techniques. Tangible User Interfaces (TUI) have emerged as a response to WIMPification, despite the fact that toys and video game controllers have long incorporated vibrotactile elements.⁵¹ As effective as these haptic tools may be for educational and aesthetic purposes, they must still compete with low-cost techniques already developed by animators, such as using models or digitizing sculptures.

Only due to the professional and creative social capital he has amassed over the course of his career is Dan able to delegate the digital toil to another. In this manner, animators can accrue creative social capital, as the haptic illustration signifies genuine skill regardless of age or technological disruption. Dan, to his credit, has exerted a great deal of effort to keep up with the regime of intensive interactivity, and he is very willing to acknowledge the creative contributions of his colleagues. In the end, he appears to be less interested in claiming creative authorship as a director than in continuing a career characterized by a pencil on paper or stylus on a surface, but he is concerned that the use of digital tools may sway him into an excessively efficient mindset.

Dan observes that although he prefers drawing on a tablet, the digital convenience has rendered the traditional inaccessible: "If I'm going to do some painting, I'll just do it in Photoshop ... I don't have the time or patience for traditional media ... I hate it. I wish I did. I used to enjoy watercolor and acrylics and that type of stuff." Dan's continued interest in the medium after all these years of practice exemplifies the mindset of the craftsman as in "a dialogue between concrete practices and thinking."⁵² Facilitating certain aesthetics and design approaches over others, software and plugins also have limitations, so it is important to consider how the tool guides the craftsman.⁵³ Dan ponders whether the use of erasable media may inhibit his artistic development over time, paradoxically encouraging him to play it safe. The WACOM may add some haptic qualities to the recombination process, but the software may inhibit haptic modes of attention.

This is not to say that animators who refine their traditional disciplines are always wary of the digital tools they use for a living; rather, animators recombine material in order to grapple with the process's optical nature. Jorge, a South-American immigrant and 3-D character sculptor in his

⁴⁸ Braverman, 1976

⁴⁹ Sennett, 1998, 38.6%.

⁵⁰ Shaer and Hornecker, 2009, pg. 3.

⁵¹ *ibid.*, pg. 4.

⁵² Sennett, 2008, 2.4%.

⁵³ *Ibid.*, 53.0%

late thirties, has worked in the United States for over a decade, maintaining an expertise in traditional sculpting while digitally sculpting characters for animation and product design. Rather than rigorously maximizing efficiency and output with digital tools, he transcends the optical and abstract limitations by using various tablets to better relate his body to the project. He uses an old Intuos 3 because “It’s very small ... the space that I draw in is about the size of my hand. So, some people have these big Wacom tablets and I tried using one from the office the other day I constantly end up trying to reach for the “close” button ... and I couldn’t reach it!” The muscle memory and difficulty of adapting to various configurations demonstrate the significance of somatic orientation in the manufacturing process. Mastering software depends on the laborer's ability to efficiently create material, resulting in a comical disconnect between where his hand believes the button should be and where it actually is. The hand reaching for the button exemplifies the quotidian ambiguities that emerge in the nonspace between the tool and its user, obscuring the distinction between the machine and the body.⁵⁴ Professional creative capital informs a procedural discipline as opposed to exploratory taptics incorporating haptic modalities. Yet Jorge finds it difficult sometimes to switch between a stylus and a mouse, the body becoming used to a particular process.

Jorge's Cintiq was at least eleven years old at the time of the interview, suggesting that the artifacts that fascinate animators need not be on the cutting edge. Rather than relying solely on the most up-to-date software, Jorge strategically incorporates tactile experience into his work by employing a method informed by his body. The fact that he can operate the keyboard with one hand while holding the stylus in the other demonstrates the harmony with which he can coordinate these disparate elements, more akin to playing the piano than plugging in code, he generates creative social capital by dramatizing his somatic memory, demonstrating mastery through ambidexterity.⁵⁵ Professional and creative social capital in the animation studio hinges on the union of the biological and mechanical as a synchronized entity, in which each part of the organism is evaluated and either discarded or maintained.

As a means to bridge this gap, he keeps an anatomical model on his desk, an object he can freely manipulate in actual space in accordance with the virtual object that he sculpts. Behind the simple ingredients of the face, the bones, the muscles, the eyeballs, and "stuff," lie infinite possible combinations and recombinations. Jorge generates creative authenticity by demonstrating mastery of anatomy and form, a strategy born from years of studying sculpture as a fine art. Displaying anatomical models and mastering traditional skills function as Jorge's claims to creativity, tactically incorporating this into the demands of professional authenticity related to optics and automation. The action figures on Jorge's desk are also involved in the production of creative and professional capital. Digital sculptures require a comprehension of three-dimensional space, but this sculptor's interface is restricted to a two-dimensional screen. A compromise is presented by the haptic stylus communicating sensations in relation to the digital

⁵⁴ Sennett 2008.

⁵⁵ *Ibid.*, 44.5%.

object so that the user can feel the material.⁵⁶ Toys can be freely manipulated in physical space, bridging the digital gap. Haptic styluses continue to be relatively costly, varying from \$650 to \$13,000.⁵⁷ but the anatomical model Jorge keeps on his desk cost \$30.

Conclusion

Since the profession's industrialization, animators at studios have been working to conceal their fingerprints. Their aim was to create a cohesive final product in which the author's absence becomes a feature rather than a flaw, as it demonstrates their professional acumen. However, the end goal of production has always been to eliminate the laborer from the process, as the emergence of art generated by artificial intelligence illustrates. Playing the anonymous craftsman becomes a liability when performing creativity online and off. Digital labor can eliminate individual differences rendering it an ideal tool for outsourcing as well. This contributes to the perception that the use of such technology is intrinsically less creative, as older and more established animators can delegate the menial digital chores to tech-savvy youth while claiming that their background in traditional methods informs their aesthetic sensibility or even their entrepreneurial spirit.⁵⁸

Digital animation software provides a variety of interfaces usually centered around a visual stage, along with tools for visualizing motion such as onion-skinning mimicking the transparency of paper layers on a light box. The tools animators use both enhance and extend their expressive potential. Some critical approaches focus on the dystopian elements of technological development, citing its capacity to deskill and offshore, while others focus on its liberatory potential.⁵⁹ Neither approach appreciates the ways in which these tools provide greater agency by enhancing the creative body's natural capacities. These tools enable animators to animate characters from multiple perspectives, abstracting motion into line graphs and node charts, becoming a prosthesis to the animator's sensorial world. Depending on fluid interactions between human and non-human actors, these tools expand the animator's aesthetic agency even as it remains circumscribed by the authority held by the studio and the client.

The animation industry requires constant training and retraining to master myriad software, forcing veteran animators to compete with younger animators who have vastly different approaches to producing social capital in the studio. Adobe Animate strives to improve its simple formula, whereas Toon Boom Harmony offers high levels of customization and flexibility, in order to compete with other digital tools in a regime of interactive intensity. In the absence of distinct strategies for selecting digital tools, animators must employ whatever appears to be popular or useful. Some animators have the autonomy to utilize any number of tools to complete

⁵⁶ Talbot, 2014.

⁵⁷ Talbot 2014.

⁵⁸ Liboriussen, 2015, pg. 429.

⁵⁹ Siciliano 2021, 27.3%

a given task, but the uncertainty makes it difficult to train or invest in new skills. Changing audience expectations and limited budgets create an environment in which studios must decide whether to remain subscribed to a specific developer or switch to something else, necessitating a complete reorganization of the pipeline. Thus, the strategy that determines which software becomes prevalent in the industry rarely corresponds with the preferences of individual animators. The relative instability of the industry reduces the incentive to master a specific software; in this case, risk is obviously detrimental to craftsmanship.

One of the reasons creative laborers persist in these precarious positions relates to the professional autonomy they may exercise, judging material according to their aesthetic sensibilities, and discovering novel ways to execute a project. However, this aesthetic judgment remains alienated, as the studio exerts a great deal of control over the final outcome and typically owns all intellectual property produced. Most animators find themselves bound by some degree of studio expectation regarding the production process, larger studios tend to be stricter about what software can be used, as the need to cohere multiple methods into a final product becomes more organizationally complex. Digital tools are also perceived as less creative because of the way directors of films use software to argue they exerted total creative control over the film, obscuring the role of the animator in an increasingly complex network of human and non-human actors. For example, Stephen Spielberg describes using motion-capture for CGI-animated films as “an art form I can underwrite or overwrite a performance and through the animators put [something into a performance] that even the actors didn’t bring to the bay.”⁶⁰ In other words, the director has turned the animator and the live-action actor into his puppets, using such technology to totalize his role as the sole creator of such masterpieces. The industry has a long history of using largely anonymous laborers, and the specific role of the animator becomes harder to recognize, which makes the production of professional and creative capital at the studio all the more vital. These tactics also enhance the cool atmosphere at the studio, in which one can still generate creative professional capital if one has sufficient professional creative capital in the first place.

The haptic aspects of animation practices continue to be essential for animators to derive meaning from their work, particularly those animators who use digital tools in a studio environment. The majority of traditional and stop-motion animation features haptic feedback as physical materials, presenting characters that are abstract enough to entice the viewer into a state of imagination in which they become sensually entangled with the character's experience.⁶¹ Understanding the distinction between passive skin sensation and the prodding fingertip enables one to comprehend "active touch," or the proactive aspect of tactile exploration.⁶² Active contact evokes the act of sketching, in which the artist begins to draw without a predetermined path in mind. Similarly, the animator and subject share a dialogical space in which the lived-body

⁶⁰ Boucher, 2011.

⁶¹ Jenkins 2016, pg. 22.

⁶² Sherrington, 1952.

becomes sensible as opposed to sensing.⁶³ Haptic visuality allows for embodied perception, in which the observer can respond to a fictional character's body as if it were their own, even if that body is mediated by a screen.⁶⁴ This process is necessary if the animator wants to evoke somatic experiences in the audience.⁶⁵

Creative laborers can turn to the haptic as a form of palliative care for the ambivalence inherent to a precarious career tied to a regime of interactive intensity. This interactive intensity accelerates the fluctuation of software demand in the industry, expanding the divide between what studios perceive to be the qualities that define an authentic professional and the personal values that signify an individual's authentic creativity. Thus, the optic separates the intimate from the professional. In contrast, haptic instruments serve as bridges between analog and digital experiences, connecting the abstract to the concrete. As creatives come to identify with a tradition of skills, the haptic represents an additional form of tactics that serve to reconcile the authentic professional with the authentic self. In this way, an animator can generate creative social capital by drawing on their past, contending that despite having to master ever-changing software, at least they have been doodling since childhood. This haptic connection, the sensation of drawing, serves as a talisman to open creative possibilities and ward off the insecurity caused by the proliferation of digital tools.

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⁶³ Sobchack, 2020, pg. 77.

⁶⁴ Marks, 1998, pg. 333.

⁶⁵ Ibid., pg. 341.

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