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Algorithmic Playgrounds: Investigating the Play Element in Social Media

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Algorithmic Playgrounds: Investigating the Play Element in Social Media

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ABSTRACT

The integration of digital technology into everyday life has radically changed how people participate in society and culture. Every facet of modern life is shaped by how humans interact with software and this human-computer interaction has directly shaped cultural behaviors and products. Digital tools such as artificial intelligence and social media applications have transformed the common means of cultural production. To better understand how this intertwining of culture and computation impacts modern life, this thesis argues for a better understanding of the relationship between play and computation. Human-technology interactions conceal a more foundational movement of play, and by understanding the "play element" at work in these interactions, we can further investigate and understand the cultural role of computation in the digital age.

Social media platforms have become central to modern culture, reshaping how people interact and express their identities. These platforms are intentionally designed to facilitate spaces for cultural play. By finding the "play element" present in social media applications, we can gain a better understanding of the intersection of culture, play, and computation, and how it impacts every aspect of modern life, from creative pursuits to the economic market. Drawing on scholars of play and culture, this thesis investigates the relationship between play and computation in the social media applications TikTok and Tinder, using them as case studies to gain a better understanding of the cultural role of computation.

Keywords: Social media, play, cultural play, algorithms, algorithmic culture, culture.

DEDICATION

I dedicate this thesis to my family and my friends. To my parents and sister, for their love and unwavering support, who kept me motivated throughout this process. And to my friends, whose experiences on TikTok and Tinder inspired this thesis, for cheering me on and keeping me entertained.

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CHAPTER I: Introduction

The integration of digital technology into everyday life has radically changed how people participate in society and culture. Technological innovations in the past thirty years have wholly transformed the nature of human interactions—both interactions with each other and with larger institutions such as the economy. Terms like "Digital Age" or "Information Age" have been used to describe a historical period increasingly and irrevocably shaped by human-computer interactions. Transformative digital technologies such as modern "smart" phones and sophisticated medical devices have made a resolute impact on the global quality of life. In addition to these measurable advances, digital technologies have also directly shaped cultural behaviors and products. Connecting with your peers no longer requires face-to-face interactions or physical proximity, as a message on a social media application can instantly connect you to anyone, anywhere (Nguyen, 2022). In culture and personal life, digital technologies—often referred to as "digital media"—have reshaped common means of communication by mediating interpersonal connections. You can participate in a lengthy debate about politics and the economy with a stranger from across the globe, aided by the vast and varied information available to you through search engines (Albrecht, 2006). Every aspect of the contemporary economy is structured around this integration of digital technology, from data storage in banks to the computers that process and produce currency. Even economic trends are subject to the influence of computation as more and more corporations turn to social media as a tool for influencing consumer habits and gathering user data (Voramontri, 2019).

The latest digital tools transforming the means of cultural production include artificial intelligence (AI). Generative AI, a type of artificial intelligence capable of generating content in response to a prompt, marks an additional shift in the ways humans utilize digital tools as a creative aid. Cultural and creative productions can now be made entirely through and by generative AI, eliminating the need for human involvement in the creation of art, poems, songs, stories, and other forms of expression. A lengthy love letter can be written without the involvement of human emotions, produced entirely by pretrained AI. Digital art once used to require years of practice, access to expensive tools, and knowledge of techniques and technicalities; now, with the help of generative AI, virtually anybody can type a written prompt into a text-to-image AI model and instantly receive an original and detailed work of digital art. Oftentimes, these digitally generated images are indistinguishable from paintings created by humans, leaving some people to question the need for artists in the Information Age (Jiang, 2023). Users have also playfully discovered unintended ways to interact with AI. Whether generating comparative essays about Taylor Swift and Barack Obama or asking AI models to play the Dungeon Master in a Dungeons & Dragons campaign, human beings have found infinite possibilities for cultural production and cultural play within the bounds of AI technology. Digital tools such as these continue to shape the ways humans create digital content, and this content is born through playful interactions that users have with the technology. AI is simply the latest manifestation of how algorithms and digital computation structure the world's cultural playground.

To better understand how this intertwining of culture and computation directly impacts every aspect of modern life, from interpersonal communication to economic

fluctuations, this thesis argues for a better understanding of the relationship between play and computation. At its broadest, I argue that human-technology interactions—both cultural and computational—reveal and conceal a more foundational movement of play. While the relationship between culture and play has long been theorized, only recently have scholars begun to think about the transformation of this relationship in an age governed by computation. Prominent play scholar Miguel Sicart argues that almost every facet of our lives is now shaped by how we interact with software, and that relating to software through play has cultural consequences. Sicart believes that social media platforms resemble a stage, with playful performance being rewarded with points in the form of shares and likes (Sicart, 2023). Drawing on scholars of play and culture like Sicart, along with other digital media scholars, this thesis investigates the relationship between play and social media algorithms to gain a better understanding of the cultural role of computation. Social media platforms have become central to modern culture and have entirely reshaped how people interact and express their identities. I argue that users of digital platforms have been trained to operate both consciously and unconsciously as players in a game—playing and executing algorithms in various ways. All social media applications are governed and structured by algorithms, commonly defined as "a process or set of rules to be followed in calculations or other problem-solving operations, especially by a computer" ("Algorithm", 2023). Generally, algorithms analyze input given to them and execute a predetermined set of commands, whether it be procedural or mathematical commands, to produce the desired output. The steps, rules, and procedures that social media algorithms execute structure the user experience of an application, and

these computational constraints allow for further opportunities for both play within the app and playful interactions with the app.

This paper argues that social media platforms are governed by a play element at three distinct, yet related levels: user interactions, implemented algorithms, and hypermediated user interfaces. While difficult to track, this elusive element of play infuses all dimensions of social media, at once reinforcing and complicating Johan Huizinga's argument that culture is infused by the "play element" (Huizinga, 1938). Gaining a deeper understanding of the play element(s) at work in social media applications can shed light on how computation impacts all aspects of culture, from the invisible hand of the economic market to creative pursuits such as art and literature. More specifically, however, my focus lies within the interactions, algorithms, and interfaces of social media applications like TikTok and Tinder, which are intentionally programmed and designed to increase user engagement and enjoyment. Digital media scholars, like Sicart, have set a precedent to this way of thinking by analyzing the intersections of play and computation as contemporary means of cultural production. In this thesis, I examine how the intentional design of algorithms and user interfaces facilitates the creation of spaces for cultural play. Huizinga argues that play is crucial to the formation of cultural products, and social media gives users avenues to express themselves creatively and playfully. Beyond this, however, social media applications are intentionally designed with constraints and limitations wherein creative and playful expression can thrive. Despite being seen as digital forums where users can freely create content, social media applications limit possible user interactions heavily through applied interfaces and algorithms. Beyond this, through the limitation of user interactions and experiences, these

applications gain a distinctive aesthetic look and functionality, separating them within the overly saturated market of social media platforms and ensuring the accumulation of profit.

Building on Huizinga's classic work, scholars like Sicart argue that there is an inherent playfulness in human-technology interaction, from the computational processes driving the technology to the interfaces connecting us to it. By examining this playfulness within computation, Sicart demonstrates the importance of play in culture, showing how computation fuels cultural production by utilizing play elements first identified by Huizinga. Although play involves subjective experiences, play itself is not subjective; as play scholar Ian Bogost argues, play occurs and thrives within set limits and boundaries (Bogost, 2016). Bogost believes that one such limitation is the cultural context in which the play occurs; how individuals engage in and perceive play, in other words, is shaped by cultural context. The notion of "cultural play" thus regards play as a phenomenon that is greatly shaped by the surrounding cultural context. Social media applications are a prevalent cultural phenomenon in modern society, and there are many possibilities for the execution of cultural play within them. This playfulness does not only come from humans, but also from the intentional design choices in user interfaces and integrated algorithms to increase overall enjoyment. For example, a digital learning software like Canvas could easily function with the bare minimum system requirements to submit assignments and manage an academic calendar. However, the addition of bright, colorful buttons and a confetti animation when students submit their work increases user enjoyment by playfully rewarding user engagement. Likewise, the addition of emoticons to the standard text messaging interface introduces a form of communicative play to an

otherwise informational scene (Evans, 2017). There are limitless ways to mix emoticons to portray feelings within the bounds of a textbox, and this is but one example where we see the expanded possibilities for playful interactions in the underlying software, user interface, and individual participant.

Current scholarship on the relationship between play, culture, and algorithms varies by discipline, but a few scholars have started to synthesize their relationship and investigate their convergences. While there is an abundant amount of scholarship analyzing the impact of "gamification" on culture, my focus lies on discovering the hidden play elements within social media applications. It aims to describe and analyze how these play elements are utilized by both individuals and larger institutions and how they impact culture at large. Ted Striphas' concept of "algorithmic culture," for example, analyzes the ways in which society has begun to delegate the work of culture—namely, the classifying of people and ideas—to computational processes, leading to his influential term "algorithmic culture." Striphas notes how modern culture has been irrevocably shaped by technology and algorithms, and he refers to corporations such as Amazon and Google as the new "apostles of culture" given their degree of algorithmic control (Striphas, 2015). While this thesis uses the term "algorithms" loosely—mainly in reference to the digital operations that govern social media applications—it also draws on Striphas' cultural definition of algorithms as "a set of mathematical procedures whose purpose is to expose some truth or tendency about the world" (Striphas, 2015). Striphas views algorithms through this cultural lens. Algorithms have the ability to predict behaviors and identify data trends to expose truths about the world. Given their communicative function, social media platforms provide users with the ability to rapidly

spread information in ways that shape beliefs about digital culture and identity. Due to this, social media platforms have become one of the most popular dimensions of this algorithmic culture. On a general basis, algorithms govern these platforms by ranking and distributing content based on user history and preference. As Striphas notes, the classifying and hierarchizing of ideas and people has shifted from being the work of culture to the work of algorithms (Striphas, 2015). Due to this new algorithmic culture, misinformation on the internet is more prevalent than ever, as computational algorithms disperse content based on user interactions rather than the validity of the statements being made. The hierarchizing of people within social media is a hot-topic issue, with social media influencers having gained the ability to sway the opinion of millions of people with only one post. Some social media creators even have the power to drastically influence economic trends and consumer behavior (Cong, 2023).

Understanding social media algorithms from the perspective of play allows us to understand one of the central reasons why these platforms have become so prevalent in modern culture. Designing play elements into computational technology leads to an increase of user engagement and enjoyment (Suh, 2016). As such, understanding play and its relationship to computation sheds light on the increasing popularity and influence of social media platforms. While social media platforms no doubt exploit the addictive nature of play, gaining a deeper understanding of their playful elements—across multiple different levels—can help us better understand the power and influence of computation in modern culture. To demonstrate this dynamic, this thesis will analyze specific play elements found in the social media platforms TikTok and Tinder, two of the most popular applications in contemporary algorithmic culture. After a brief introduction to play theory

and its value to cultural criticism, I will focus on TikTok and Tinder in order to explore the relationship between play and social media algorithms. With both platforms, I argue that variations of play manifest at three different levels: user interactions, implemented algorithms, and hypermediated user interfaces. By finding the "play element" at work in these areas, my hope is to gain a better understanding of the intersection of culture, play, and computation, specifically in the age of social media.

Play Theory

Play theory is a branch of scholarship that analyzes play as a phenomenon that shapes and influences both the individual and the surrounding culture. The formulation of classic play theory is largely credited to Johan Huizinga, Dutch historian and theorist. In 1938, Huizinga published *Homo Ludens: A Study of the Play-Element in Culture*, in which he argued that a "play element" can be found in every aspect of culture and cultural production, from war to poetry to law and legal proceedings. "Play is older than culture," he famously argued, positioning play as a phenomenon that creates and infuses itself in all cultural forms. In *Homo Ludens*, he defines play as a "free activity standing quite consciously outside ‘ordinary’ life as being ‘not serious,’ but at the same time absorbing the player intensely and utterly" (Huizinga, 1938). His famous definition of play involves the following key characteristics: play is free, play is distinct from "ordinary" life in both locality and duration, play demands order, and play is not done for any gain or material interests (Huizinga, 1938). Along with this idealist vision of play, Huizinga is also credited with the concept of the "magic circle," which he describes as a separate, defined space governed by its own set of rules and constraints, a definition popular among game designers and game theorists. When a player enters the "magic

circle" of play, Huizinga argues they transcend reality and interact with the artificial constraints of a playful world. The value of the term lies in its delineation of play as both a formal and material activity, an exercise or performance governed by the circumscription of a different set of rules, boundaries, and algorithms.

Other scholars like Brian Sutton-Smith have argued that while play is often shaped by cultural context, it is not solely defined by culture; rather, certain aspects of play exist beyond cultural confines, such as the imagination and experimentation (Sutton-Smith, 1997). In *The Ambiguity of Play,* Sutton-Smith identifies seven rhetorics of play that outline why play occurs and the impact of play in culture. Three of the rhetorics that Sutton-Smith defines are that play does not follow expectations set by society, that play shapes social values and traditions, and that play is a way to escape reality and create new worlds (Sutton-Smith, 1997). These rhetorics follow a similar line of thought to Huizinga's "magic circle," providing us with a framework to examine play from a more abstract position—as an element that circulates within broader modes of cultural production. Huizinga's "magic circle," for example, while not without its critics, can be usefully applied to think about play elements in social media applications, which are designed to allow users to escape everyday life and enter an artificial, algorithmically structured reality where they are free to creatively play. Bogost holds the belief that any space, real or digital, can be considered such a playground, so long as we acknowledge the elements structuring the space (Bogost, 2016). Whereas Huizinga considers play as a phenomenon that transcends ordinary life, Bogost argues that play is a "material property of all objects"—to play is to explore a given space as a playground (Bogost, 2016). From this perspective, it is possible to read the implemented algorithms and hypermediated

interfaces of social media applications as the means through which playgrounds and playful experiences arise. Thus, social media applications can be read as technologies that construct their own “magic circles” through algorithms, interfaces, and user interactions. From a critical perspective, play theory allows us to analyze how users consciously and unconsciously interact in digital playgrounds and operate playfully within them.

As scholars have noted, one limitation of Huizinga, particularly the concept of the "magic circle," lies in its idealism and its failure to account for the material structures that physically give shape to play. Ian Bogost, for example, adopts Huizinga’s basic position but argues that to play means to "operate a constrained system in a gratifying way" (Bogost, 2016). Like other game scholars, Bogost believes that rules and structure are vital for play, and that by submitting to the constraints of a system, more playful experiences can arise. The value of Bogost’s insight extends to digital systems as well. Computational algorithms and computers are, at their core, tightly knit software and mathematical processes, and by acknowledging the limits of possible human interaction with them, users can deliberately play with and within their confines. With that said, acknowledging the technical limits of social media platforms is difficult, since the platforms generally aim to hide their complexities behind seductive software that promotes ease of use (Eslami et. al., 2016). Despite the hidden nature of the implemented algorithms, every action taken within a social media application is entirely structured around the limitations of the algorithms and user-interfaces, which together structure the playground in which cultural production unfolds. By acknowledging these limitations and submitting to them, users agree to become players and consumers of social media. For example, the social media platform TikTok (a short-form video application) requires

users to create videos that do not surpass a certain time limit. Many users have acknowledged this limitation and have found ways to work around the constraint to increase enjoyment. If a user wishes to post a long video diary, they might split the video in two sections, bypassing the video length barrier leaving the audience on a cliffhanger to encourage the audience to view the accompanying video. This is just one quick example of how creators and audiences playfully interact with each other and the technical constraints of TikTok to create cultural productions. For now, the general point is that users are invited to play with, rather than just consume, the technological affordances of social media platforms.

At the level of computation, however, concealed algorithms control these possibilities of play in specific ways: users not only play with, but they are also played by specific algorithms. In her book *Playing at a Distance,* Sonia Fizek argues that users of any form of technology are always subject to the processes and procedures of technical media. "Play emerges out of complex material, human and nonhuman ludic entanglements (Fizek, 2022)," Fizek states, focusing her book on the fact that nonhuman machines now perform playful acts independently from human interaction. She posits that computers mediate play, and that any play that occurs in technology is shaped by the limitations and processes of the computing machine (Fizek, 2022). Mediated by algorithms and computational structures, play thus emerges as a paradoxical element entangled with the notion of constraints. Play is always limited and constrained, and yet these limits and constraints are precisely what generate the conditions of play in the first place. Simply put, play emerges from the constraints of a system and the decision to work within those constraints. This leads to an apparent contradiction in play, exemplified by

the notion of "constrained play," but a contradiction that is also productive, according to Bogost. Play only occurs when constraints and limitations are present and acknowledged. Without constraints there is no play. Thus, while rules and constraints are inherently limiting, in the context of play they become a generative structure. Generative constraints and procedures are the basis on which play emerges and gets defined.

The allure of social media applications lies in their presumed ability to define a separate reality for users—one where they can escape their economic, political, and social reality and enter a world of play. However, even this artificial reality is not safe from the influence of capitalism, as corporations encourage playfulness in social media in order to envision new markets and new desires to control and commodify (Soderman, 2021). Many companies have created social media profiles to market their product to unsuspecting users, playfully interacting with potential customers to increase their consumption and influence their spending habits. For many, it is now impossible to use social media without seeing the evident effects of capitalism within the applications. But seeing and understanding are two different procedures. Despite the capitalistic opportunities leveraged through play in social media applications, I believe that critically evaluating the influence of play, along with its criticisms, can shine light on the cultural impact of social media platforms in the digital age. Social media applications are technological systems defined by play, whether this be through the addictive design of interfaces or the algorithmic constraints that give rise to play. Play is inherent to their formal structures and systems, in other words, but users also bring their own playfulness to the applications, adding a subjective dimension of play that complements the more formal definition previously outlined. Simply put, play is a movement generated by and

within a given system, while playfulness is a subjective attitude added by users in the process of interaction. I argue that there is both play and playfulness in social media applications; indeed, their ability to integrate these two play elements helps to explain their cultural dominance in the past decade.

CHAPTER II: TikTok

Boasting roughly 2.6 billion downloads, the social media application TikTok has become a global sensation (Zhang, 2021). Created by the company ByteDance in 2017, the platform quickly rose to popularity and became a digital cultural phenomenon. TikTok allows users to create and post content as short-form videos, ranging from one second to ten minutes long. Its algorithm, meanwhile, constantly presents users with a variety of recommended videos based on their viewing history. Like any cultural phenomenon, TikTok has become radically influential to modern culture, shaping the way that people interact digitally and interact with larger social institutions. In this respect, TikTok is a prime example of Striphas' algorithmic culture—a term that describes how the work of culture has been delegated to computational processes in the digital age (Striphas, 2015). TikTok, along with other social media platforms, has redefined how users express themselves, how communities are built, and how ideologies are shared within the digital sphere. Surrounding yourself with a community of your peers no longer requires physical proximity, as "digital communities" within social media platforms allow people to share common ideologies and offer social support. Political activism blossoms within digital communities such as these, and due to TikTok's ability to spread a video to a large audience, activists have begun to utilize TikTok to spread petitions and campaign for social change (Karamat, 2016). Many scholars have begun thinking about the impact TikTok has on larger institutions in the economic and political sphere, both positive and negative. TikTok lends users the ability to rapidly spread ideas and information, which leads to a vast amount of misinformation being spread within the app (Kivijarvi, 2022). The hierarchizing of ideas, which Striphas used to believe was the

work of greater culture, is now commonplace in social media platforms. With users unable to determine fact from fiction, some TikTok "theories" have replaced commonly accepted ideas outside of the digital sphere (van Kampen et. al, 2022). Conspiracy theories on TikTok are a widely documented issue, and misinformation spread within the app has been linked to an increase in the participation of political protests internationally (Boulianne, 2022). Given TikTok's massive influence in modern culture, information spread within the application has large and evident ramifications within the cultural, political, and economic spheres.

The rapid rise in TikTok's popularity has been credited to several factors, from its mixed media content to its user-friendly interface to its innovative recommendation algorithm. Across all of these features, play elements animate the platform and function as a driving force behind its worldwide success, influencing its design and cultivation of opportunities for creating entertainment and creative interactions. In this section, I will examine the interfaces, algorithms, and individual users' contributions on TikTok to examine the relationship between play, culture, and computation. TikTok cultivates playful interactions from users through the intentional design and implementation of its interfaces and algorithms, as well as implementing constraints across various levels. By restricting the possibilities for content creation within the app, TikTok cultivates further playful interactions from users, increasing its cultural impact across economic, cultural, and political spheres (Boulianne, 2022); Brian Sutton-Smith has argued that play can shape and reinforce values and traditions, an insight confirmed by TikTok's ascendency. As an application designed to facilitate play, TikTok has the power to sway economic trends and increase civic engagement, the kind of economic and political work fueled by

its ability to create constraints that promote and produce cultural play. By analyzing the various levels on which play occurs—interfaces, algorithms, and users—we can understand the varieties of play that the application exploits, while also shedding light on the reason why TikTok has become such an impactful cultural phenomenon.

Algorithmic Play in TikTok

The functional algorithm that governs the platform is the key to its consistent global success. The algorithm discovers, filters, and delivers content to an individual's page, focusing on videos created in a user's native language, and equally new user videos and videos from online celebrities (Zhang, 2021). ByteDance has not released the technicalities behind their TikTok algorithm, but it is assumed that the algorithm operates similarly to other commonly used social media algorithms. Content recommendation algorithms are a class of algorithms utilized by many popular platforms, including Netflix, Amazon, and YouTube (Narayanan, 2023). These platforms use "collaborative filtering," meaning that they recommend content to a user based on the content they have enjoyed in the past, which is the basis of recommendation algorithms. TikTok employs similar methods in a more advanced form, tracking user activity and recording the type of videos a user is most likely to interact with (i.e., watch, comment, like, or share with other users). Based on these properties, the TikTok algorithm recommends videos to users, allowing them to join digital communities based on shared interests by predicting user engagement. The algorithm will assess new videos by displaying the video to a few users, analyzing the number of user interactions the video receives, and displaying the video to different users accordingly. If a new video gains a high number of interactions, the algorithm will show the video to a larger number of users, and if a video does poorly

in terms of user interactions, the algorithm will show the video to a smaller number of users. Unlike other social media algorithms, the virality of a video in TikTok is not based on the popularity of the creator, but on the popularity of the video itself. Based on this feature, TikTok's recommendation algorithm was celebrated as one of the "Top 10 Global Breakthrough Technologies" in the MIT Technology Review in 2021, specifically for its ability to satisfy personalized user interests rather than showing videos based on overall popularity (Zhang, 2021). Users of TikTok are aware of the functional algorithm and are thus incentivized to create unique and creative content in hopes of gaining influence within the platform. In doing so, they are directly playing with the algorithm, understanding the limitations imposed on them, and playfully working within them to produce creative content with cultural impact.

Although the technicalities behind the TikTok "for you" page algorithm have not been released by ByteDance, users hold a common understanding of what the algorithm is and how their user experience is affected by it. Computational algorithms are, at their core, a tightly knit set of mathematical processes that govern a platform, and users must work within the limitations of the TikTok algorithm to create popular content. Although TikTok cultivates creative expression in the form of video content, every action that a user takes on the platform is entirely structured by the underlying software and algorithms. Imposing technical limitations on a creative platform may seem counter-productive, but play scholar Ian Bogost believes that by acknowledging these limitations and working within them, more opportunities for playful expressions will arise (Bogost, 2016). Many users are aware of how their experience as creators on TikTok is crafted by the algorithm, and some will purposefully interact with content they find strange or

outlandish to mold their user experience into something more humorous or playful. Some users will create content that tries to "trick the algorithm" by adding popular elements to a video that would typically perform poorly (Klug et al., 2021). Some users will add a song that has gone viral on TikTok to play in their video, but they will turn the volume down completely so that the algorithm will consider the song playing, but viewers will not be affected by it. If potential viewers have been known to interact with videos containing that popular song, the algorithm will show them the new video, although the viewers have no previous connection to the video content. This innovative way of working within the limitations of the algorithm to push forth content is becoming increasingly popular, and users can play around with different combinations of popular songs and tags to increase their chances for virality within the app. This avenue of playful interactions with the application serves to further solidify the commonly held idea that anyone on TikTok can be famous, so long as they understand how to playfully operate within the technical limitations of the platform.

Corporations have become aware of the unique marketing power of TikTok, and that by utilizing the recommendation algorithm, they can spread free advertisements in the form of trending videos more rapidly than a paid sponsorship. Brands have shifted away from traditional marketing, choosing to create videos on TikTok that are in line with trending jokes and topics. Although it might seem unprofessional, this new-age form of marketing has proven to be wildly effective, as users can have a hard time differentiating regular, playful content from content that is trying to sell something to them (Berliner, 2023). Chain restaurants such as Chipotle and Dennys have molded their entire TikTok accounts around reproducing modern trends to promote their brands, which

in itself is a form of cultural play that drastically influences economic trends (Ngangom, 2020). The uniqueness of the TikTok recommendation algorithm gives corporations an avenue for marketing to the younger demographic on TikTok that they would otherwise have trouble reaching. Understandably, this has led to various criticisms from users, as brands are creating playful content within the app not for enjoyment, but to sell a product to unaware consumers. The intersection between social media and the capitalist economy has been theorized by scholars, but often at the expense of their cultural significance (Fuchs, 2016). By describing and analyzing the play elements at work within social media algorithms, I hope to delineate exactly how the integration of play in social media impacts culture at large and gain a further understanding of how this play is being exploited by corporations and larger social institutions. Social media resembles a "magic circle," where users are able to escape the confines of reality and enter an artificial reality, yet corporations and late-stage capitalism have begun to invade this artificial reality, playfully interacting with users in an attempt to advertise products.

TikTok's Interfaces and Formats

Along with its governing algorithm, the popularity of TikTok can also be credited to the uniqueness of its interface. Not only is the layout and organization of TikTok structurally unique among social media applications, but it also incorporates video editing software as part of the user experience—aspects that are also imbued with play elements. TikTok applies three main pages—the "following" page, the "for you" page, and the "user profile" page—to organize content which users can interact with. The "following" page, common among all social media platforms, shows videos posted only by users that you follow on the application. The "user profile" page also works similarly to other social

media platforms, allowing the user to personalize their profile to craft their online identity. The "for you" page and the algorithm that governs it, however, is unique and distinguishes the application's interface from other social media platforms. Unlike other applications, the "for you" page is the default page shown when opening the app, incentivizing the users to interact with videos and with other creators. On this page, TikTok applies a recommendation algorithm, recommending videos to users based on attributes that the video contains. Properties such as video content, title, creator, music, and tags are considered when recommending a new video, and this page delivers content to users based on how likely a user is to interact with it.

These structural constraints of the TikTok interface might seem limiting, but it is within these constraints that opportunities for cultural play arise. The format of the pages themselves restrain movement from the user, allowing them limited opportunities for physical movements of the eye and finger. TikTok displays content vertically and requires the user to scroll through one video to view the next, and the nature of the digital pages displayed are inherently playful. Andrew Piper theorizes such digital pages as ludic simulations, arguing that the structural logic shown on digital pages allows users to create a mental "pathway," leading them mentally from one topic to the next as they would in real life (Piper, 2012). This artificial pathway leads users to mindlessly scroll through the application, increasing user engagement and adding to the "addictive" nature of the application. This formatting of the interface is limiting, but it is within these structural bounds that users are able to creatively and playfully operate.

The hypermediated interfaces available on TikTok cultivate various opportunities for playful user interactions with the system. Every aspect of user interface design is intentionally placed to promote ease of use and video creation, from the large, conveniently placed "record" button to the built-in video editing features. Other video based social media platforms, such as YouTube, require users to utilize third party video editing software and expensive recording equipment to create a quality video, but TikTok has implemented these features as part of the user experience. Users can solely rely on the software within TikTok to create any video they wish, from short informational videos to lengthy cinematographic pieces. They are encouraged to learn the features provided and incorporate a range of these features to form a video that matches their creative vision. TikTok users can play around with the options for songs, filters, and text entries until they find the combination that suits their video. Furthermore, the addition of easy-to-use editing software within TikTok incentivizes creativity by producing specific constraints—for example, different filters and text box styles—that create opportunities for playful expression.

Many trending videos within the app gain virality due to the way users playfully interact with the video creation interface, from the in-app filters to the various video formatting features, the most popular of which is "duets." "Dueting" a video on TikTok allows users to choose a video they watched, create their own video in response, and then display the videos side by side on their own account. This allows for an entirely new video interface in which users can collaborate on content and share information within their digital community. There are also many opportunities for humorous or playful experiences within this feature, with many users taking moments from the original video

out of context to create a humorous video on their end. Another way users play with TikTok's user interface is through filters. Although filters are common in social media applications, users on TikTok can play around with different combinations of juxtaposing filters, allowing room for creative expression. The success of TikTok as a whole, influenced by its innovative algorithm and interfaces, is largely due to the opportunities for play within the limitations of its software. Sicart believes that we can relate to software through play, and that this play drives the creation of new cultural, political, and social forms (Sicart, 2023). The editing tools available in TikTok are complex software, packaged in an easy-to-use interface that makes itself available to any user. The success of TikTok's interfaces has also influenced other social media applications, such as Instagram and Facebook, as they have begun simulating TikTok's features and short-form video capabilities, editing features, and collaboration features in the form of "reels" (Shutsko, 2020). These applications are not only replicating the technical features of TikTok, but they are attempting to replicate the imbedded play elements within, and the limitations that give rise to different forms of playfulness and creative production.

Content Creation: Individuals and Community

Social media platforms were created to connect individuals worldwide, and the beating heart behind these platforms will always be the users. The cultural play and production of TikTok is produced by both individuals and digital communities within the app, and in both instances, the play capitalizes on the inherent contradiction within the application itself: the tension between freedom of content creation and the limitations of software programming. Freedom of creativity is at the core of the user experience in TikTok. Users are able to create content and carve out a space for themselves within the

digital landscape, allowing their online persona to become an extension of themselves. As we have seen, however, the exercise of freedom, creativity, and personal expression in TikTok is deeply entangled with its material and formal structures: its governing algorithms and its format and graphic design, most specifically. This contradiction between freedom and constraint is inherent to all social media platforms, balancing between the creative nature of users and the rigid technological bounds dictating possible user interactions. To play the algorithm, users must find a way to acknowledge these boundaries and playfully operate within them. As their main purpose is to be a communicative vessel for users to interact, social media platforms have also allowed users to create their own online identities within the digital sphere.

The ability to shape online personas is another example of how users can play within the limitations of the software in TikTok. Although personality is often seen as a nuanced and varied trait, the anonymity and influence that social media lends users allows them to form a digital persona separate from their everyday personality (van Djick, 2013). This can be done casually, as social media users across platforms typically try to put forth their best image into the public eye, but it also can create the basis for a user's social media experience. For example, some users on TikTok will create their profile around a character from a piece of media they are a fan of. One user on TikTok even created their entire platform, boasting 20.5 million followers, around them personifying the character Willy Wonka. They will create videos, reply to comments, and dress up as though they are actually Willy Wonka with a TikTok account. It is an uncommon, but influential way of a user taking charge of their digital identity and crafting their persona for a more playful experience within the app. The Willy Wonka

account was a global sensation, with some videos reaching upwards of 134 million views worldwide. The reason behind this popularity is the way the creator subverted the common expectations of users in the app and playfully interacted with others and with the platform of TikTok itself. Beyond the technical limitations of the software, there are no guidelines on how a user should craft their online identity; the persona they display on TikTok is entirely up to their own creativity and how willing they are to use the app in a playful manner. Interactions such as this show how playful interactions with the TikTok software on the user's end can increase user engagement and enjoyment within the technical limitations of TikTok.

At their core, social media applications were created to facilitate interaction through the creation of virtual communities. Community is one of the defining pillars of culture, and online communities are another example of how the work of culture is being delegated to digital processes (Striphas, 2016). The creation of digital communities is commonplace within TikTok, as users with common interests and hobbies are repeatedly led by the algorithm to each other's "for you" pages. These communities can mimic real life communities, often with self-appointed names, such as "LGBTQ+ Tok" or "D&D Tok," or they can be niche digital communities entirely created through the app, like "Book Tok" or "Fairy Tok." Regardless of their specificity, these communities allow users spaces where they can create personalized digital identities and share ideas. These online communities function as any real-life community would, the only difference being how they mediate social and communal forms of interaction with technological constraints. This is an important difference, of course, since users in digital communities are being entirely shaped through and by available software (Şot, 2022). A user may

believe that they are in control of the digital communities they join or what topics interest them, but the governing algorithm of TikTok limits their opportunities to break free from these communities. Because of this, the communal circle itself can be seen as a cultural playground—a place structured by limitations in which cultural play thrives. Many forms of cultural play emerge in these communities, ranging from collaborative fan-projects to the creation of entirely new linguistic expressions that can migrate away from the platforms and into everyday life. From abbreviations to entire phrases, new forms of language have been created and popularized by TikTok communities (Sulistiyaningsih, 2022).

Conclusion

While there are play elements in every form of human-computer interaction, the social media platform TikTok implements specific software that allows opportunities for play and creative expression in ways that demonstrate the creative allure and potential of formal rules and constraints. The popularity of TikTok, as well as the influence of social media in modern culture, is largely due to the opportunities users have to interact with software playfully within a specific platform; TikTok's software transforms users into consumers and producers who playful interact with both other users and the available software and interfaces. Despite these playful interactions, however, there are many criticisms about the integration of play elements in social media platforms. There are inherent contradictions within TikTok—balancing the freedom of content creation with the technological restraints of the system, as well as the balance between garnering user engagement with exploiting user interactions through play. Some view the addition of play elements as a way to manipulate users into increased app usage and spending,

viewing playfulness in social media as a means to a profitable end. Companies are aware that by utilizing playful behavior and relatability, they are able to increase in-app spending and increase interest in their product (Reijmerink, 2022). -Both individual users and corporations exploit the play elements in social media applications, using play to their advantage. Although criticisms about the integration of play elements are valid, and playfulness in social media does lead to increased user interactions and engagement (Suh, 2016), it is important to acknowledge that the reason TikTok is enjoyable for users is because it cultivates spaces for playfulness, and the enjoyment that users within the app experience is the reason TikTok has become widely popular. The app was intentionally created in a way that encourages playful interactions within the computational limitations of the software, specifically at the levels of user interactions, implemented algorithms, and user interfaces. The cultural effects of TikTok are evident, from the re-shaping of linguistic behaviors to the creation of digital communities. It is my belief that TikTok, along with other social media platforms, has become radically influential in modern culture due to the intentional integration of spaces that encourage playful interactions.

CHAPTER III: Tinder

The online dating application Tinder has revolutionized how interpersonal connection and romantic partnerships are formed in the digital age. Tinder is the most popular dating app worldwide, boasting a high percentage of active monthly users (Dixon, 2023). While the popularity and repeated engagement within Tinder can be credited to its unique, user-friendly interface and functional algorithm, an underlying play element, combined with user playfulness, facilitates Tinder's immense cultural impact. Dating applications have mediated the work of culture—specifically the formation of intimate connections and relationships—through computational processes. In this sense, Tinder is another platform in which we can see Striphas' algorithmic culture at work. Interpersonal connection is vital to cultural production and cultural play, and within Tinder, these intimate dimensions of the human experience have been structured by algorithms. Roughly 27% of engaged couples in the United States met through Tinder, cementing the idea that dating applications have transformed how romantic relationships are formed in the digital age. Social media applications were developed to be communicative forums in which users can connect and interact, and dating applications have elevated this connection by creating spaces where users can go specifically to form romantic relationships.

Despite its original purpose, however, Tinder is now used by the majority of its users for personal entertainment rather than to form meaningful relationships. There has been a radical transformation of dating apps from an application meant to mediate romantic connections to a platform for cultural play and entertainment. This transformation, I argue, hinges on the "play element" that has been present in dating

applications from their origin. Historical shifts in the uses of these applications point to the flexibility of the "play elements" that organize them, elements that increase user interaction and enjoyment, and in turn, solidify the popularity and significance of dating apps within modern culture. There is a clear playfulness brought into the application from users, but there is also a hidden play element imbued within the application itself, specifically its governing algorithm and available interfaces. In the case of Tinder, this play is further magnified by the inherent playfulness of romantic and intimate connections more generally. Dating, flirting, and romance have always been characterized by their playful nature, and due to this, the very act of forming intimate relationships can be viewed as a game that people play to win a partner. It is this playfulness, and the cultural play and production that stems from it, that Tinder capitalizes on within the digital economy. Tinder intentionally utilizes and relies upon the addictive, playful nature of romance to secure user engagement, increase user satisfaction, and solidify its place in modern culture. Focusing on three levels within Tinder—user interactions, implemented algorithms, and hypermediated interfaces—I will examine both the play elements within the technological system of Tinder, the play of dating and flirting more broadly, and the playfulness that users bring to the system. As with TikTok, describing the play elements at work in Tinder can help us to further understand the relationship between culture, play, and computation, as well as shedding light on why dating applications are so common and influential in the digital age.

Algorithmic Play in Tinder

Like many dating applications, Tinder employs a matching algorithm to filter and match individuals with their potential partners. Fundamentally, the matching algorithm

works by mapping multiple data points—age, location, personal preferences—and pairing users with potential matches based on those data points, prioritizing users who are active on the app. The specifics behind Tinder's matching algorithm have not been released to the public, but it is assumed to work similarly to commonly used matching algorithms in other popular dating applications. Compatibility matching on dating applications began in the early 2000s to narrow the possible dating pool and increase matches. The dating website eHarmony was one of the first to patent a matching algorithm for pairing users with possible partners, and their algorithm uses a regression-based approach to match users based on variables in hopes of creating long-term relationships (Buckwalter et al., 2004, 2008). Many matching algorithms also utilize collaborative filtering, delivering recommendations to users based on their previous behavior and the behavior of users with similar preferences. Users of Tinder interact with the algorithm by swiping right or swiping left—approving and disapproving, respectively—on other user's profiles on the app's main page, with every possible match being previously evaluated by the algorithm. Compared to an app like TikTok, where users are free to create content and individualize their user experience, the limitations in Tinder may seem overly restrictive for a social media platform. However, unlike TikTok, Tinder is not intended to be an application for content creation; rather, it was created to facilitate romantic connections. As such, it facilitates playful interactions with both other users and with the application itself. Users of Tinder hold a common understanding of how the platform's algorithm works, and they have found innovative ways to playfully operate within the algorithmic limitations. The play that manifests within Tinder is magnified by the structure of the application and its algorithm, but it is derived from the

playfulness that naturally occurs in romantic partnerships, a fact that Tinder has been able to capitalize on in its digital playground.

The phrase "playing Tinder" is commonly used to describe the unique ways in which users interact with other users and with the application itself, creating opportunities for personal enjoyment (Santos, 2018). The developers of Tinder are aware of the playful ways that users interact with the application and its algorithm, as mutual right swipes leave users with the options to send a message or "keep playing." To "play Tinder" thus means different things to different individuals, but most users understand "playing Tinder" as using the application in subversive ways—not to find a relationship, that is, but as a tool for personal enjoyment and entertainment. To "play Tinder," users must first acknowledge the technical limitations imposed on them by the application. Users both consciously and unconsciously acknowledge these limitations, agreeing in a sense to become players in the Tinder game as soon as they download the application and create a profile, entering the "magic circle" and playing within the artificial reality it creates. Users can "play Tinder" in a variety of ways. Some may choose to mindlessly swipe through potential matches to cure boredom, others choose to decisively approve and disapprove other profiles simply as a game, prompting the algorithm to show potential matches that they find humorous or entertaining. The terminology that Tinder utilizes by prompting users to "keep playing" poses the users as players in a game, with the user interface being the playing field and the prize finding a match.

Throughout history, romance and marriage have often been performed by cultural practices involving games. Finding a partner in the Middle Ages would often involve

men jousting each other to win the favor of noblewomen (Barker, 2003). Many ancient Greek myths involve young men wrestling or racing one another to win a woman's hand in marriage (Jost, 2015). Beyond this, more subtle forms of competition and play elements can be seen in modern dating practices, as participants are essentially competing against others to prove their wealth, education, and personability to a potential partner. Dating and romantic pursuits in the digital age are simply the newest form of this cultural play. Tinder utilizes this competitive nature of dating and stages users as players in a game, where they must use dating and flirting as methods to win the prize, find a partner, or simply to connect with and tease other users. This game constitutes the "magic circle" of Tinder. Players must leverage the playful nature of romance to find mutual matches and "win"; and even if they win, they are given the option to "keep playing." The pursuit of romance can now be mediated entirely by computers and algorithms, which has led to a cultural transformation in the play inherent to dating, flirting, and intimate relationships.

Tinder's Interfaces and Formats

The interface of Tinder is unique among social media applications since it allows little room for users to express their creativity and communicate through producing content. Rather, it relies almost entirely on the user "swiping right" or "swiping left" on other user profiles and messaging other users within the app. The play within Tinder is not derived from the interface or its allowances for content creation; instead, the interface translates the play inherent to romantic pursuits into a digital playground. The main functional interface of Tinder presents users with potential matches one by one, with the matches' profile picture prominently displayed, and their name and other important

information written below. This design was chosen to limit the options given to users so as not to overwhelm them and dissuade them from using the app (Finkel et al., 2012). The iconic "swiping" interface of Tinder was modeled after a deck of cards, showing potential matches' faces rather than card faces. Tinder founder Sean Rad admitted that they view the interface of Tinder as a game, from the motion users take to the reaction they receive from the software (Stampler, 2014). Rad believes that when someone sees a deck of cards, the natural urge is to interact with it, and he applied this same way of thinking when creating the iconic Tinder interface. Like a deck of cards, the constraining movements of Tinder create further spaces for play to occur. These constraints, as Bogost would have it, structure play within a specific system—in this case, the application—thereby changing the system into a cultural playground where play and creative expression can flourish. The limiting movement allowed within Tinder has ushered in new means of entertainment for users, including metagames in which users compete with their friends to see how quickly they can scroll through potential matches within an allotted time frame (Santos, 2018).

By modeling their main interface after a deck of cards, Tinder has reinforced the notion that Tinder is a game that operates off the playful nature of romance. However, many users who join Tinder for reasons other than romance still enjoy the addictive nature of the application and "play Tinder" without participating in the play inherent to dating and flirting. In cases like these, it is almost as if users are competing against Tinder itself to find a compatible partner. Users might believe they received a match from an interested potential partner, but in reality the match might have occurred due to swiping competitions like the one mentioned previously. Likewise, if one user jokingly

approves and disapproves of other profiles in an effort to “play the algorithm” toward showing increasingly humorous profiles, many could be left with the false hope that they found a potential match. Users who "play Tinder" for reasons other than romance do so because of its addictive nature, which stems from the design of the interface and algorithmic limitations. Tinder purposefully carves out an avenue in which users can get as attached, if not more, to the experience of "playing Tinder" than to actual human beings and connections. Users are almost flirting with the app itself; indeed, in a tactile sense, the movements of their eyes, fingers, and bodies replay the sensation of teasing and flirting with an object, minus the commitment. This is symptomatic of the transformation of romance as it moves from the physical arena, conditioned by real human bodies, to a digital and virtual one. The subversive playfulness that comes from users, supported by the app’s algorithm and user interface, has played a critical role in Tinder’s popularity and cultural influence.

Play in User Interactions

Although much of the play within Tinder stems from the application’s design and its ability to capitalize on the cultural play of romance and dating, there is also a playfulness brought to the app by the users. Although Tinder purposefully designed their functional interface and algorithm to promote playful experiences, it depends on the users to utilize the given software in a playful manner. The algorithm that Tinder implements, for example, is heavily influenced by factors and preferences that users mark in their profile. Users can choose to be completely honest when creating their profile, showing unedited photos of themselves and submitting their interests in detail, or they can craft a false digital persona that replicates their desired personality. Falsifying personal details

on social media applications is extremely common, prompting the birth of the term "catfish" to describe users who intentionally mislead others through the crafting of their online profile (Smith, 2017). Some users can do this playfully, using random photos to trick their friends through Tinder messaging, and some can do this maliciously, tricking users into sending their crafted persona money or access to sensitive information (Derzakarian, 2017). Many users will misrepresent their identity more casually by creating a mostly true profile, but they will change small details about their interests or personality to attract more matches. In doing this, they create a digital persona entirely separate from their everyday personality, aided by the anonymity social media applications lends users (van Djick, 2013). This itself is a form of computer-mediated storytelling, and it can be viewed as a cultural activity in which users playfully create characters to portray and an elaborate narrative surrounding them. Users can also playfully utilize their profiles to coax out conversation from other users, with some posting controversial opinions or humorous jokes in their biography in hopes that potential matches will message them (Santos, 2018). Compared to other social media applications, users on Tinder have a smaller sphere of influence and more technical limitations placed on them, forcing them to be increasingly creative in how they playfully interact with the software.

Conclusion

Playful interactions with the software are at the heart of the Tinder user experience (Stampler, 2014). While many users join Tinder to form meaningful, romantic connections, others join solely for enjoyment and entertainment, playfully interacting with the available interfaces and algorithm. The popularity of Tinder, and of dating

applications in general, is due to the various ways in which play and playfulness are encouraged within the software. For the most part, the success of Tinder is dependent on the inherent play of romance and dating, but Tinder also fosters playful interactions through their interface design and functional algorithm. Dating applications are a clear example of Striphas' "algorithmic culture," aligning the work of culture—in this case, forming romantic relationships—with computational processes (Striphas, 2016). Tinder has created an entirely new cultural playground that digitally mediates and encourages playful interactions with other users and with the platform itself. The playful addictiveness within Tinder has led to many criticisms about the digital commodification of romance, specifically with paid subscriptions to the app. Many features available in Tinder are blocked by a paywall, which forces users to subscribe to Tinder Plus to access them. While this kind of capitalization is not unique to Tinder, its intentional integration and fostering of playful and addictive features has been criticized for transforming the natural sensations of dating and flirting into commodified products (De Vries, 2023).

Clearly, the appeal of social media is facilitated by its construction of a "magic circle," a cultural playground that separates reality from the real world and allows users to playfully and creatively express themselves. However, corporations have begun to utilize this playground to envision new markets and new desires that can be commodified, instrumentalizing play as a form of consumption (Soderman, 2021). While it is important to be aware of the involvement of late-stage capitalism when examining playful interactions in social media platforms, the integration of play as a user experience is not inherently negative. From its inception, Tinder was created to digitally facilitate relationships, extending and possibly enhancing the inherent play in romantic pursuits. It

encourages playful interactions within its technical limitations on the levels of user interactions, implemented algorithm, and hypermediated interfaces, and it has completely redefined how intimate relationships are formed in digital environments. The cultural influence of Tinder is directly linked to how the application facilitates play and playful interactions. For better or worse, it has carved out a romantic digital playground in which users play, flirt, create, and express themselves within its technical limitations.

CHAPTER IV: Conclusion

Social media applications, as one of the newest dimensions of Striphas' "algorithmic culture," reveal a fundamental change in how the work of culture is being further delegated to computational processes (Striphas, 2016). As a pillar of culture in the digital age, social media now influences every aspect of modern life, impacting social, political, and economic spheres. The radical cultural influence these applications have, as well as their international popularity, owes much to "the play element" found in their cultural technologies and platforms. While all forms of human-technology interaction could be defined by play, proving Huizinga's argument that culture is infused by a "play element" (Huizinga, 1938), social media applications such as TikTok and Tinder have found ways to design, manipulate, facilitate, and capitalize on play in the digital economy. As this thesis has shown, social media platforms are governed by play at three distinct levels: user interactions, implemented algorithms, and hypermediated user interfaces. By examining this playfulness in social media applications, we are better able to see how computation fuels cultural production by encouraging playful interactions and integrating play elements within its software. The interactions, algorithms, and interfaces of TikTok and Tinder are intentionally designed and programmed to increase user engagement and enjoyment through the addition of play elements. Cultural play, a term that regards play as a phenomenon greatly shaped by the surrounding cultural context, flourishes within the technological limitations of computational systems (Bogost, 2016). The rigid structuring of these applications, as well as their ability to define a separate, ludic reality for users, make them the perfect digital arena for cultural play to thrive. Users of TikTok are restricted by the available content creation tools and the functional

algorithm, but they can playfully interact with the available editing software to produce an impactful video, just as they can integrate popular hashtags and filters to "trick" the algorithm. Likewise, Tinder directly encourages users to playfully interact with their software, while benefiting from the inherently playful nature of romance and prompting their users to "keep playing," even after receiving they win a match with a potential partner.

The allure of these applications lies in their ability to define a separate reality for users—a digital playground in which users can escape the confines of their reality and enter a world of play. The play elements integrated into social media platforms, as well as the playfulness brought from users, are not neutral toys. They can function as tools for increasing user engagement and improving user experience, but also as tools that lead to addiction, vicarious living, and cultural bias and prejudice. Information spread on TikTok, for example, has the ability to influence political movements for good or ill, boosting and transforming civic engagement worldwide (Boulianne, 2022). TikTok's affordances for communal play and the rapid spread of information are founded on the ambiguities and paradoxes of play—an activity whose value is ideological and context dependent. Social media applications also have the power to drastically influence economic trends through corporate advertisements and influencer marketing (Fuchs, 2015). In all of these areas, our understanding of social media benefits from analyzing the relationship between play, computation, and culture. As new forms of digital media emerge, we will likely see more examples of the playful work performed by computational algorithms in structuring the world's cultural playground.

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