**What’s in a Game?**

In his work “Homo Ludens,” Johan Huizinga (1938) explores humanity not as homo sapien, or “wise man,” nor the more modern view of humans as homo faber, or “man the maker.” No, Huizinga evaluates the play element of humanity as being vital for the emergence of culture, and because of this it is accurate to view humans as homo ludens, or “man the player.” However, all creatures seem to play and thus, humans are not unique in wanting to play. Perhaps a further separation of humans from other creatures is not the insistence on play, but the insistence on playing games. There’s a unique cleverness to the structure of games that has aided in the development of humans across time and space. Indeed, games have permeated not only the individual developmental process of humans but also in the development and interactions at the societal level of humanity. In an evaluation of games as a concept as well as exploring a number of different types of games found throughout history and how they have impacted society, one might find just how significant games are to human development.

From Football, to Monopoly, to Call of Duty, games come in all shapes and sizes. But games are all vastly different from each other, and yet they are all the same form of entertainment: games. What are the underlying set of principles inherent in games that so separate them from other entertainment, but can still be found among all of them? In order to know how significant games are to human development, there must be a definition for what a game truly is. The definition is a rough consensus by a number of specialists in a wide variety of fields: games are player-focused, objective-oriented, procedure-based experiences where rules, boundaries, and resources allow for conflict in order to achieve some outcome. There are a lot of elements to games, and a useful understanding of what a game is will begin with looking at each component.

First and foremost, games include an element known as play. According to Morris and Stiehl (1999) play is “an enjoyable, serious, voluntary activity that participants consider to be apart from the external world.” Enjoyable is certainly a word that comes to mind when thinking of play: laughing, delighted looks, and energetic movement are common among players. Yet the words serious and voluntary are interesting components to explore when understanding play. Play is serious, because it is a psychological tool necessary for development. In an interview with research participant Jillian Scanlon, a professor of Early Childhood Development at the Pennsylvania College of Technology, play was described as the main tool children use to figure out the world around them. Although children aren’t explicitly declaring their world-defining activities as play, there is a subconscious propensity to make believe and pretend with material objects in order to obtain mastery of certain faculties, such as fine motor skills or depth perception. Children play with an implicit yet very serious intention to grow and learn. The voluntary nature of play simply means players will subject themselves to the activity, even if it involves inefficient action. For example, Fullerton (2014) in her work “Game Design Workshop” has the reader picture golf, where players, instead of simply using their hands to take the ball to the hole, voluntarily pick up a stick with metal attached to the end in order to hit the ball from several hundred yards away in hopes of getting it in the hole.

Objectives are the next important structural component of games and directly entice and involve the player in a game. In other forms of media, like television or books, the audience doesn’t set out to accomplish anything. There is no objective in watching a movie or reading a book, there is no end goal in the viewing of certain media in and of itself. But games are different because they are activities that include within themselves an objective to be completed. In golf the goal is to get the ball in the hole in few strokes as possible. In blackjack the goal is to have one’s cards add up to 21 without going over and without being lower than the dealer’s cards. The presence of a goal or something to achieve in games separates it entirely from other media.

Procedures are the next structural component of games and relate to what the player can do to complete goals in games. Procedures also include controls on how to access the game, so procedures for video games include control schemas that let the player know how a controller is used. According to Fullerton (2014) “[Procedures] guide player behavior, creating interactions that would probably never take place outside the authority of the game.” For example, golfers can use a variety of clubs to get a ball to a hole, but they must use a club to hit the ball. The insistence of players to follow procedures further distinguishes games from other entertainment. However, procedures exist in a game because they are allowed by rules, another formal element of games.

Boundaries and rules are the next structural component of games. Boundaries and rules are interesting because they interrupt the act of play. “Limitations are placed on player freedom in order to direct play towards a goal” (Morris & Stiehl, 1999). Where play is boundless and merely an excuse to interact with the physical world to hone cognitive abilities, games impose a number of structures that limit play but create more meaning for players. These limitations can be in the form of physical space, such as boundaries, and in action restrictions, known as rules. In early development, children play in a parallel style, meaning they play *next* to each other but not necessarily *with* each other. However, as children reach operational development, they begin playing with each other, adding social interactions as they work around obstacles they make for themselves during play. In an interview with Professor Scanlon, she stated “games that support those social interactions, those are gonna have a deeper meaning and deeper impact for long-term memory than anything else.” Boundaries such as lines outlining fields of play or rules such as the floor can’t be touched add a social arrangement to games that necessitates players working together to abide by those rules and boundaries to play within them. This increased interaction demands higher developed cognitive abilities and furthers that development along. Boundaries and rules aim play towards a goal, which is often the game’s end and when a winner and a loser are declared.

In mere play, there are no winners or losers. There is no goal per se attached to playing with a ball or building with blocks. Perhaps cognitively participants in play satisfy a need for cognitive demand but beyond this there is no constructive element present in simple play. Games however motivate players through uncertain outcomes. In any game each player can achieve the objective, for example in golf, any player is able to hit the ball towards the hole. But the player who gets the ball to each hole in the fewest number of strokes is the winner, and only one player can achieve this outcome. Contention and competition focus human ability and skill into deriving a favorable outcome from a game. With play no longer aimless, cognitive resonance with a game is less general and more specific.

Now, with a better understanding of games one might see the potential games have to be significant to human development. But the structures alone are not reason enough to conclude that games are significant. It is within the context of culture where games become vitally significant. There is one commonality among all humans: culture. Culture is a vast subject and it incorporates everything from biology to sociology and is a reflection of the high intelligence and cognitive capacity that humans possess. There is perhaps no greater achievement, monument, or technology that completely encompasses what it means to be human than culture. But how do humans learn culture? Perhaps the main reason why games are significant to human development is that games allow players to learn and perpetuate culture. To further explore games in a cultural context it will help to separate them into four categories: sports, tabletop games, video games, and traditional games.

**Sports**

When people say the word “game” sports aren’t exactly the first thing to come to mind. But make no mistake, sports are games. Sports involve play, objectives, boundaries, rules, and outcomes just like any other game. Sports are different from table top games or digital games in one very important way: the players are themselves when they play. As Brian Sutton-Smith (2001) puts in his work “The Ambiguity of Play:”

One might ask two Olympic runners how much of their thought while racing is given to the moves within the race, how much to the gold medals that might follow it, and how much to the glory of the country they represent…. All of which is to say that the play and the game are played partly for their own sake and partly for the values attributed to them within the ideologies that are their con-text (p. 77).

There is no avatar to represent them on the field, they get to represent themselves. In other words, with sports what you give is what you get. Each action translates directly to the physical player. Additionally, the culture surrounding sports invokes a certain spirit within competitors, where they might imagine more than just their own reputation at stake. And it is this unique quality of sports that adds to their significance in regards to human development. Sports help show how significant games are to human development through different genres, history, culture, and the impacts of they have on individual and societal levels.

Sports vary widely and can be organized into a number of genres. The vast differences between genres betray a broad definition of a “sport.” For example, ball sports are one type of sport genre. Ball sports revolve around, unsurprisingly, a ball which players either move towards a goal or hit a ball and run a path without getting hit by the ball as opposing players retrieve it. Extreme sports like skateboarding or BMX cycling use wheeled equipment participants use to do stunts. Motorized sports also include vehicles, but drivers either race each other in lap-determined races or in straightaway speed contests. What sports genres tell us is humans have created games in almost every sphere of life and have created specific tools and technology just for playing games. This pursuit of games certainly reveals a level of significance of games in human development, which is further explained by the history of sports.

The oldest sport in the world is wrestling. Ancient cave paintings in France dating over 17,000 years ago depict wrestling. Even as far east as Japan, scrolls have been found that include instructions on how to wrestle. Wrestling pits two people in a struggle of strength until one wrestler pins the other. Wrestling finds a place in religion, perhaps most famously in the biblical story of Jacob from the Bible, where Jacob wrestles God. Although all sports have extensive histories, one thing can be derived from history: sports have been a large part of human civilization creation and development. Many popular sports of today were part of the Ancient Greek Olympic games which pitted competitors against each other in feats of physical strength instead of warfare. Honor could be won through competing athletically instead of through fighting. The Olympic games and a growing audience for sports has led to cultures developing solely around sports, which further reveals a deep significance of games in human development.

Culture is a learned set of patterns or behavior. While cultures often include food, music, rituals, and ways of living, sports help teach and further develop culture. Commonalities exist among the cultures of different sports like team loyalty. Team loyalty is almost like a religion, being passed down from generation to generation. A child born in a house that supports a certain team might be expected to also support that team. Contentions might arise between the marrying of different team loyalists. Fans of opposing teams might slander each other or even become violent towards each other. The culture of sports has led to the development of stadiums worldwide, connecting millions of people. People groups come together and unite under team loyalty if only for an evening. A team winning can do more for its fans than a booming economy. And a team loosing can crush the spirits of fans the world over. There is this overarching spirit or force behind sports; one doesn’t play a sport simply for the sake of play. For some, sports are a matter of national pride, for others sports are integral to families. Sports have led to deep societal and individual impacts that have further evolved and changed humans into the species they are today.

The societal impacts can be summed up in the existence of worldwide competitions. The biggest of these are the Olympic games. The Olympic games take place every four years, and countries produce for each event a team of the best athletes in their borders. The location of the Olympic games changes every four years as well, often taking place in country capitals or large cities. The Olympic games are important because countries that are unrecognized due to varying stages of development can be recognized through their athletes which act as representatives for their countries. World Championships for sports like Baseball, Soccer, Golf, Wrestling, and Swimming do much the same thing though not in such a grandiose way as the Olympics. Societally, this has led to peace among a contentious world theater. Sports can unite people within their own countries, but can also unite people around the world.

Another development from sports has been the advancements in medical technology, physical training, and individual recovery in order to support athletes. Sports medicine includes pharmaceuticals, physical therapy, exercise science, and even nutrition to help athletes achieve and keep achieving their goals. A whole branch of medicine has been development solely because of a style of games. Any advancements in the field of sports medicine increases just how significant games are to human development.

While sports have changed the entire world, the significance they bring to human development also includes how they change an individual. Sports teach a number of important character skills: teamwork, sportsmanship, and self-improvement. Sports are games, and the parts of sports that help individuals the most are the direct involvement of an individual, competition, and winning and losing. The direct involvement of the player translates to a change in physiology. While some games have avatars that represent players, the individual is active in sports and the physical demand of a sport leads to an improvement in physicality. Competitions inherently require opponents to be the best they can be. Competitions decide a winner and a loser and because sports are largely devoid of skill, the winner often has a greater mastery of the skills needed for their sport. This competition drives player improvement, further honing any physiological improvements. Winning and losing can lead to mindsets driven to strive for winning and learning from losing. This mental shift further impacts individual development.

Sports are games. The significance of sports in human development is evident in the structure of sports, the history of sports, and the impacts sports of had on society and individua’s. The structure of sports has led to genres incorporating almost every aspect of living and then some. The history of sports shows that they have been a part of humanity for nearly 17,000 years and perhaps are even more prevalent today. The impacts of sports in society has resulted in unification of people groups across the globe. Individuals benefit from sports mentally and physiologically. Sports are unique among games in how they directly involve the player, but some games use tokens physical or digital to represent the player, and this creates a different kind of significance in human development.

**Tabletop Games**

From Chess, to Poker, to Dungeons and Dragons, tabletop games are the card games, board games, and role-playing games that are part of childhoods the world over. One thing that separates many traditional games from other types of games is the avatar. In traditional games, players are rarely participating directly in the game world, game pieces called “avatars” act as player representatives. It is this concept of the avatar that changes how players experience a game, and what the game world is allowed to be. Through genres, history, culture, and its impacts tabletop games show how significant games are to human development.

The structure and genres of tabletop games help show how significant games are to human development. Tabletop games are usually confined to some sort of board or play area. They are rarely played in areas larger than a living room. The avatars that represent players can be cards, tokens, or imaginary characters. Card games, one genre of tabletop games, don’t always include player avatars. In games like Poker or blackjack, players represent themselves, but the presence of the tabletop and unique resources makes them less of a sport and more something else. Avatars in board games like chess, checkers, or monopoly come in the form of game tokens which take on different shapes and in the case of chess different tokens do different things. In role-playing games like Dungeons and Dragons players use their imagination and their avatars are the characters they think of. Table top games often last a single session, sometimes in the case of most role-playing games, play lasts for multiple sessions held across weeks, months, or even years. The top-down nature of tabletop games allows players to see the bigger picture in situations. The future can be determined and predicted by thinking ahead, which isn’t always doable in sports, which further defines tabletop games. This ability to view the bigger picture and make moves that assist an individual further down the line instead of immediately translates into the real-world ability of perspective. And it is perhaps this quality of tabletop games which explains their prevalence through human history.

The extensive history of tabletop games suggests a great significance of games in human development. The earliest tabletop game is Senet, having been discovered in Egyptian burial sites dating back to 3500 BC but may have been played as early as 5000 BC. Perhaps most notable about Senet was its direct correlation to Egyptian views of the afterlife. “At the most, the game indicates that ancient Egyptians believed they could join the god of the rising sun Re-Horakty, in mystical union even before they died” (Piccione 1980). So, the concepts of religious life and the afterlife for the Egyptians were compacted into a game. But the Egyptians were not unique in this. The game Go, popularized in Japanese culture, held a similar spirit of bringing larger life concepts into the realm of play. Indeed, even the modern game Monopoly invokes the spirit of capitalism, showcasing the very fundamental aspects of economic systems. The very games themselves are serious representative composites of the culture they are born in. What happens is the culture that bore the game can be learned through the games it makes. Although this is not unique to tabletop games, it is perhaps the tabletop games that have attached culture to games the earliest.

Although a favorite topic of study in a number of fields, tabletop games define their significance chiefly in psychological analysis. In an analysis of chess and its applications to psychology, Gobet et al. (2004) find this conclusion to their collected data: “In general, the empirical results support de Groot’s hypothesis: players, as they develop higher skills, acquire ﬁnely tuned perceptual mechanisms.” Reaction times, position information, memory, and problem solving can all be derived in pursued mastery of chess. At the individual level, there comes a point where simple, boundless playing, must be replaced with structures that challenge cognitive abilities and demand more from mental faculties explored in infantile play. Board games, in their usually top-down point of view, offer players to expand perceptional cognitive functions the most.

The genres, history, culture, and impacts of tabletop games show how significant games are to human development. The top-down nature of tabletop games allows players to see the bigger picture in situations. Games began to reflect society and culture and thus helped children and adolescents to learn major concepts of living in simple ways. In society, games have been a useful tool in upper classes, a uniting force for families, and have led to the development of algorithms and programs for applications in a multitude of fields. At the individual level, tabletop games allow players to learn perspective and making moves that benefit them in the future, rather than just chasing the expediency of the moment. But what happens when play is encountered in simulated environments?

**Video Games**

Video Games differ from other gaming mediums in one specific aspect: they take place in the digital realm. Video games, through the power of computing, can simulate other types of games. Sports video games like Madden NFL or FIFA simulate American football or soccer respectively. Games like Tabletop Simulator can, as the name suggests, allow player to play board games like monopoly. Other games, like The Legend of Zelda take place in entirely fictional worlds. Unlike sports, for the most part, video games do not directly involve players. Video games, like tabletop games, use an avatar to represent a player. There are exceptions, such as virtual reality games and body control games like Just Dance for the Xbox Kinect that require player movement as input. In video games, feedback is accompanied by visual cues, audio cues, and physical cues such as controller vibration. The digital nature of video games changes the way in which they are significant to human development. Through genres, history, culture, and its impacts video games show how significant games are to human development.

Video games can be placed in three main categories: role-playing experiences, online multiplayer experiences, and simulations. Now, these categories are often all part of a single game, but these elements are the foundations on which video games are built. Role-playing experiences allow players to become a character. Either the character and his or her characteristics and personality is provided by the game, or the player can create their own character with his or her own personality and characteristics. Role-playing games can look like platformers such as Mario, or open-world adventures like The Witcher series.

Online multiplayer experiences allow players to play together, either being pitted against each other, or players join in cooperation against the game or players. The massively multiplayer online (MMO) genre of video games is perhaps best encapsulated in games like World of Warcraft or RuneScape. Other games such as Call of Duty: Warzone or Fortnite are battle royal games which often are free-for-all’s among players competing to be the last one standing. In these games, players can join up in “squads” or “clans” and in the case of games like World of Warcraft or the Elder Scrolls online series, the alliances players make can change how they experience the game.

Lastly, simulation games often reflect real life in some way. Sports games like FIFA, or Racing Games like FORZA try their best to accurately simulate real-life physics and mechanics of their respective counterparts. The significance of video games changes, not in becoming lesser or greater, but by differing among each category of game. Some games instill patience, some teach quick thinking and action, while still others teach skills that translate directly to real life. However, there are some aspects of video games that can negatively affect the psyche. Although there is not causation of suggestive themes, sexual content, and extreme violence to the acting out of those aspects in real life, there is a correlation between the negative aspects of video games and a desensitization towards those aspects in real life. But even video games showcase the influence and centrality of culture to their underlying structures.

Games weren’t very widespread at their advent. Beginning in the late 1950s in the information technology industry, which was a tentative new field, many video game hobbyists found themselves on the outskirts of normal society. But were the creators merely enraptured by the novelty of video games, or did they maybe know they had stumbled upon perhaps the next big change in how humans play? It is hard to explore without relying heavily on speculation, but this closeted culture gave way to a more public eye with the advent of arcade games. Arcade games are bound in large machines to house the computers that run them and the cathode ray screens that displayed them. Arcades became a favorite hotspot of gamers as the myriad different games and machines offered an equally varied experience with video games. Although gaming largely died out in the 1970s, the resurgence in the 80s led to an increased popularity among games. However, the stigma in games resulting from the media and political backlash of the violence of games polarized society and made gaming a largely unappealing hobby. That, however, is changing.

The gaming industry is learning from its mistakes. Although there are trends in video game genres, there are enough competitors to offer something for everyone. It is no longer becoming rare to find a video gamer. In fact, perhaps the greatest ally in the popularity of video games is the advent of e-sports. The multibillion dollar and growing e-sports industry handles the organization of tournaments for professional gamers. The same team loyalty and culture apparent in regular sports is now forming and growing ever larger in the industry of e-sports. The massive shift and impact games have had culturally have shown what new forms of play do to society. It is imperative to discover the specific impacts video games have had at the societal and individual level in order to determine the significance of games.

At the societal level, games are significant in their treatment by politics and media. The video game phenomenon’s popularity ebbed and flowed based on the support received from politicians and media personnel. Public opinion has shifted to a more positive view of video games, but almost every violent event sees the pointing of fingers chiefly and primarily at video games. The impact video games have had is undeniable. But the positive benefits video games have had in society lie in their applications. Grogan and Meijer (2017) explore the use of simulated environments in engineering systems research: “Their boundary‐spanning nature aligns with challenges in engineering systems to consider both technical and social factors in design.” Even in the field of disability and therapy, Guerrero et al (2017) conclude that “Interactive systems for people with disabilities have proved to be an excellent way of providing technological support to incorporate them in everyday life activities.”

At the individual level, video games act as microcosms that perpetuate not only culture, but a number of psychological phenomena as well. Lange et al (2018) discuss this at length while looking at video games through an evolutionary psychology lens and conclude that video games appeal to emotion and morality, social interaction, and learning and motivation which are key psychological developmental traits. Video games, in their unique ability to offer large virtual landscapes to explore put players in the position of the first man. Progression is often sequential and leads to a feedback loop where pursuing progression offers opportunity to pursue even more progression. Humans are biological composites of an extensive evolutionary tree. Perhaps the most appealing aspect of video games is the ability to experience rapid and instantly stimulating evolution not over the course of millennia, but within an hour.

Video games show that gaming is significant to human development through genres, history, culture, and the impacts they have had on society and the individual. The different genres of games change the way humans play, and thus change the benefits humans can receive from playing. The history of games shows an advancement in human development in desiring new ways to play. Culturally, video game enthusiasts shared their love for the hobby with small circles. Now, however, the stigma against video games and their hobbyists has largely fallen away. Societally, video games have drawn the eye of media a politics, but the real significance of video games to human development lies in the applications in therapy and accessibility. Individually, the microcosm experience of the virtual world in video games offer an insight to their appeal. Humans experience mastery and development in a rapid pace, and depending on the game, can walk away with slightly increased cognitive abilities much like in sports and tabletop games. Although games have been discussed as largely material artifacts found among humans, are there perhaps games that are more abstract in form; games humans play without them knowing they are playing a game?

There is another form of game yet to be explored: traditional games. Certain types of traditional games are largely non-existent now, but use to be a genre of game passed from child to child that could be played and understood largely without a written set of rules. They often use simple equipment like sticks and stones during gameplay. Although traditional games have historically been found among children, there is a sort of branch of traditional games enjoyed by teenagers and adults through the social nuances of coming of age and beyond. Traditional games are significant to children because they are the first steps beyond simple play that encourage development socially and cognitively. For young adults and beyond, traditional games are significant for learning social norms and behaviors as societal demands increase. Finally, at the society level, traditional games can define entire cultures among organizations and governments.

**Traditional Games**

As children develop, they move from playing abstractly to playing within the confines of games. The structure of games provides more room for creative cognitive processes in order to operate under rules and boundaries. The social implications of competition and achievement allow for bonds to form between children as well. Traditional games then are a sort of culture among children; rules and how to play a traditional game often come from word of mouth and example then a universal codified law. In general, it is perhaps the social aspect of traditional games that is most beneficial to players. Especially for children who need to learn to socialize with humans beyond their family, this social component is critical. While children use the social components of traditional games to begin the early foundations of friendships, traditional games begin to evolve for young adults.

Perhaps the biggest and most widely played traditional game played among young adults is dating. As puberty hits, priorities shift around. Children who once played with almost complete gender fluidity might begin to look at the opposite sex differently. Just as the animal kingdom sees animals try their hardest to impress their mates, the art of courtship is not lost on humans. In America, courtship has somehow turned into a game and is mentioned as much with an almost explicit subtlety. Participants in courtships, or those who practice it the most are often referred to as “players.” Their strategies for how to attract the opposite sex is known as a “playbook.” Even courtship itself is referred to as “the game.” Objects of affection and courtship, once successfully attracted, can be referred to as “prizes” or “trophies.” Although there is certainly a counterculture to viewing romantic pursuits as a game, and a stigma can often arise towards “players,” the various subcultures revolving around courtship all have a structure of norms that resemble a game. With the advent of online dating, there’s almost a minigame in coming up with clever bios to attract partners, with the boundaries being the dating app or website. And yet, these norms are often passed between circles rather than something that is directly taught by parents. But perhaps an ever-increasing area of more social-constructed gaming is the realm of social media.

Social media might be a unique phenomenon in the modern world, but a lot of its elements have been around for quite some time. Social media is a game in that profiles are often personas or pretend characters that might reflect the individual behind it, but rarely are a person and his or her online persona the same. Playing in social media comes in the form of rhetoric and discussion between make believe personas. Rules surrounding the use of different words and phrases constrict player abilities in meaningful ways, and the boundaries are of course the sites on which social media takes place. The objective and outcomes might be a little ambiguous at first, but one clear objective is to garner support which often comes in the form of followers. The outcome is perhaps to have the most followers, as more followers allows for more attention which can lead to more followers. But the impact of social media is huge, and increases one’s social network beyond what is physically around him or her.

Traditional games are popular mainly among children. However, phenomena like dating in America or the interactions on social media mimic the microculture found in traditional games among children. Traditional games again show the ability of games to teach and perpetuate cultures in the inherent cultural structure that passes between players. Traditional games among children initially build the social components for later life, while the phenomena of dating and social media continue to hone social skills. While there are many more types of traditional games played all over the world, these examples are sufficient to showcase the impact games have on human development.

**Conclusion**

Games are not only significant to human development but are an inevitably among such a culturally-oriented species. Indeed, games are reflections of culture and the means by which humans learn and perpetuate culture, and they also serve to hone cognitive abilities through the creative play found within boundaries and rules. Sports generate culture around teams and within families, and players experience marked changes to their physiology. Table top games heavily reflect the culture in which they are made and help to instill cultural ideals in players, while also aiding in the development and mastering of perceptional skills. Video games offer a virtual world to a player, and players experience evolutionary psychology in at a rapid pace through their game character, but also receive the cognitive benefits of spatial reasoning and perception skills. Lastly, traditional games reflect culture in the way they are taught to others through example and word of mouth rather than codified law. The social aspect of traditional games further aids in human development. While the exact impacts on human development among sports, tabletop games, video games, and traditional games differ, they all reveal an inherent cultural structure that adds to their appeal and cement their significance in human development.

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