From Parallel Play to Co-Play: Forms of Play in Live Streaming Labor

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In this article, we examine the significance of parallel play to player labor on live streaming platforms like Twitch. Parallel play is a concept that emerges from research in the areas of early childhood education and development, denoting a style of play in which two or more participants play alongside or concurrently to one another without direct interaction. In "Social Play Among Preschool Children," Mildren B. Parten documents several examples of this phenomenon in early childhood including two children playing with dolls next to each other or building with blocks in ways that shared a physical and emotional space but rarely crossed over into interaction with one another's play (141). During parallel play, children allowed other children to share in their joys or sorrow rather than the activity itself by reportedly calling others over to witness their accomplishment and attracting onlookers to intently watch them during play (Parten 143-6). In its most complex forms, children involved in parallel play were found to produce a shared affective space often layered with specific social and cultural values. Parten found that children playing house would adapt parallel roles scaffolding and amplifying those already present in house play without the necessity of direct interactions. Parten

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writes that "events occurring in the home were re-enacted: setting the table and giving a party; telephoning daddy to ask when he was coming home; receiving the doctor for a sick baby" in the same fictional home without or rarely directing the conversation to other children playing house as well (144). Although the practice and goals of parallel play largely emphasize individual players, Parten's study demonstrates that they generated moments of intersection through emotion, spectatorship, and affect--categories fundamental to the production and labor of play in live streaming.

While Parten's work with parallel play presents it as a sequential step in childhood development, later studies of this phenomenon, such as P.K. Smith's "A Longitudinal Study of Social Participation in Preschool Children," reveal that parallel play occupies preschool children's lives as a state or form of play rather than as a fixed step in a developmental sequence. Specifically, Smith's research shows that parallel play is not guaranteed to occur immediately before or after other kinds of play and instead appears as a form of play unto itself. Roger Bakeman and John R. Brownlee's "The Strategic Use of Parallel Play: A Sequential Analysis" supports these findings, observing that parallel play is, in fact, optional for many children: "If parallel play really represents an intermediate level of social participation between playing alone and playing with other children, then we would expect Smith's children to have demonstrated a progression from Alone to Parallel to Group play, but in fact few did" (873). Yet Bakeman and Brownlee caution researchers that parallel play being optional for children does not make it any less significant as a form of play, and recent analyses studying parallel play in video games have shown that parallel play transcends childhood and is meaningful to players of all ages. Wei Peng and Julia Crouse, for example, note the presence and importance of parallel play for all ages in rhythm and "exergames" like *Dance Dance Revolution* (423). Echoing Parten's findings that parallel play provides affective amplification and scaffolding, Peng and Crouse write that players playing both solo, cooperatively, and competitively in parallel environments reported more enjoyment, motivation, and achievement in play. Their recognition of parallel play as a significant form of play beyond childhood leads them to call for further research on parallel play and play spaces to better understand where and how this form of play occurs (Peng and Crouse 425-6).

Video game live streaming on platforms like Twitch has emerged as one of the most prominent and public-facing forms of parallel play across ages. Examples and variations of parallel play abound on the platform, most easily recognized in

popular performances like the side-by-side speedrunning relays and races featured on Awesome Games Done Quick.

These runs use a shared physical space as well as the malleable digital space of broadcast software to place together four separate instances of the same game being played by four separate players into the same space. As Figure 1 depicts, each players' run is divided into separate quadrants of the same screen. While each player is engaged in their own activity as they race to complete the game as fast as possible, their side-by-side play produces an amplification and scaffolding of outcomes and affect noted in Peng and Crouse's work with exergames. For example, the audible and rhythmic tapping of controllers in patterns specific to *Mega Man X*'s run as well as the bodily reactions and poses in response to weaving through specific challenges within the game provide an aural residue and physical backdrop linking individual player feelings and performance. While relays and races are just one genre of parallel play popularized in video game live streaming on Twitch, it gestures towards a broader community of practice that stands to expand parallel play beyond the categories of childhood development and exergames.

Figure 1. A four-person speedrun of *Mega Man X* featured at Awesome Games Done Quick 2020

As Figure 1 demonstrates, live streaming platforms spectacularize parallel play through side-by-side multi-capture windows and chat feeds in which we can find play happening between viewers, streamers, and machines in most video game live streams. Camera feeds of player reactions sit snugly against feeds of gaming spaces that are bordered by text-based chat windows housing the words of audience members and commands from interactive bots. The partitioned structure of each feed provides opportunities for the parallel modes of play documented by Peng and Crouse, such as a streamer's game play happening in one region of the stream while the chat feed hosts an entirely unrelated conversation in another portion of the live stream.
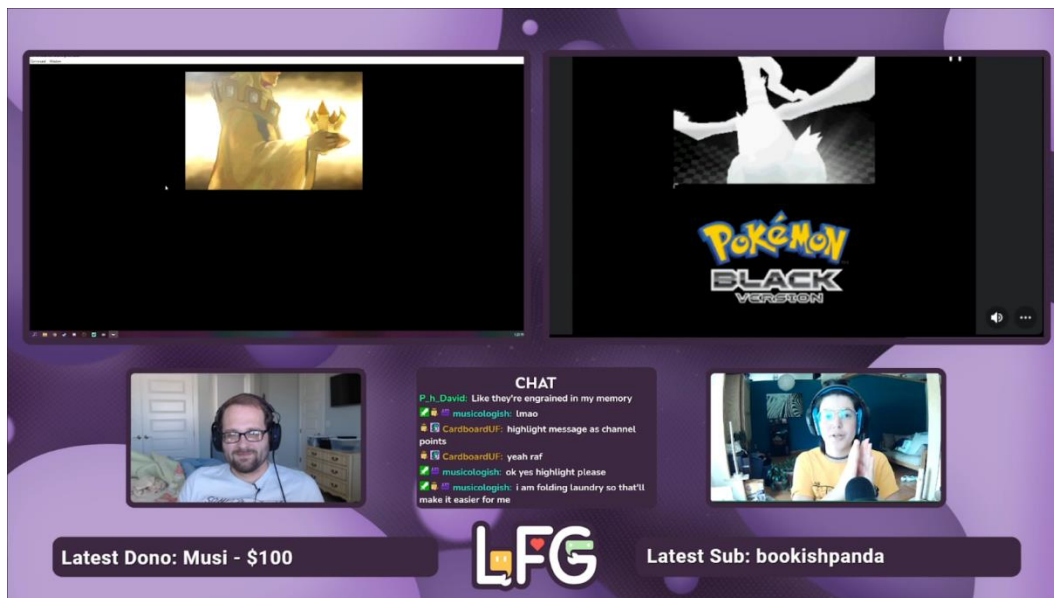

Figure 2. A two-person side-by-side playthrough of two differently randomized *Pokémon Black* games on Looking for Good while viewers in chat (bottom center) hold a separate conversation

Figure 2 shows a common example of parallel play on Twitch. The hosts, Looking for Good's Kyle and Raf, have created an "overlay" (a term describing the visual frames and borders for the various feeds and information in a live stream) and placed it into a broadcasting software to separate each video feed featured in the stream. In addition to separated camera feeds, each plays their own "randomized" copy of *Pokémon Black* in separate areas of the overlay. Randomization, a popular category of video game live streaming that individualizes

the play experience by swapping items, characters, level design, and more elements normally found in the game with completely random ones, further separates and individuates the parallel play by ensuring significant differences in the progression of the games themselves. Rather than an outlier, Looking for Good's approach is representative of the many ways live streamers and audiences approach video game live streaming through the logic of parallel play.

Figure 3. A blend of parallel play and co-play featuring separate game feeds of *Portal 2* while the hosts appear as part of the game play and game/streaming space

Figure 3 provides a mixed example of co-play on Twitch using broadcasting software and chroma keying. The hosts, SummersFTW's Summers and Raf, each control separate characters in *Portal 2*'s cooperative mode divided by a center split in the game play feeds while a separated feed of Brock (Summers' pet guinea pig and co-host) is bordered in the lower left-hand corner of the screen. Unlike Brock, Raf and Summers use chroma keying to remove their surrounding environment and place their video capture over and into *Portal 2*. Whereas the hosts in Figure 2 are captured in their current and separate surroundings, viewers would struggle to tell whether Raf and Summers are in the same space or if they have both added separate chroma keyed video feeds to the overlay to make it appear as if they were, in fact, playing together. Through chroma-keying and the careful arrangement of their video feed in the overlay, SummersFTW's hosts create a shared common space that

is both a part of and apart from the stream and the game. In this instance, parallel play becomes co-play as the partitions between hosts, stream, and game are dissolved into a more unified form. This style of play can also be found in early experiments with video capture and video games like *Nick Arcade*, which would use this technique to synchronize players with various video game environments and challenges (Figure 4).

Figure 4. An image from *Nick Arcade* that depicts co-play achieved by using a physical environment on a bluescreen stage and contestants blending their bodies and performances into a video game-like space.

A more complete example of co-play can be found in *Twitch Plays Pokémon*. Launched on February 12, 2014, *TPP* is a crowd-sourced playthrough of Nintendo's *Pokémon Red* using a fan-made hack of the game playable via Twitch chat. The emulator running the *TPP* version of *Pokémon Red* featured a script that would "listen" to the text sent to the chat room for specific messages such as "B," "A," "Down," "Start," "Up," "Left," "Right," etc. After viewers typed and sent these messages to the chat room, the script would relay them to the game as in-

game commands. By typing "Start" in chat, viewers could achieve the same effect as pressing the "Start" button on a Game Boy and pull up the game's pause menu. This transformed *TPP*'s chat into a collective controller for *Pokémon Red*, allowing roughly 1,165,140 players over the 16-day journey to co-play as Red.

Figure 5. Screen capture of *Twitch Plays Pokémon* showing, from right to left, chat, chat's commands, *Pokémon Red*, and chat's current team of Pokémon. The bottom of the screen shows statistics on game progress.

As players worked to coordinate millions of inputs in real time with thousands of anonymous Twitch viewers also controlling Red, the collective often encountered interference from delays, latency, lag, and trolls. To anticipate and resolve these issues, players relied on constructing an affective intuition that could anticipate reciprocal inputs in advance of seeing other players' inputs, effectively visualizing a mode of pre-cognitive play that worked to synchronize the otherwise chaotic inputs. Players would, for example, anticipate inputs seconds and minutes into the future that could place them into dangerous situations and time their own inputs to correct these attempts at derailing their desires to complete the game. As a result, players came to forge a shared anticipatory mode of play that relied on (and succeeded because of) feeling and sensing in advance of seeing any concrete inputs in the stream chat. Doing so resulted in a massive deluge of fan content (art, fiction, film, theology, and more) documenting and mem(e)orializing the shared

emotional and somatic ties formed between viewers in the chat as they coordinated their shared embodiment of Red and the remarkable events encountered during their journey.

Yet the sheer number of player inputs would most often end up pushing Red in directions seemingly unexpected and unproductive. The disarray and turmoil of chat's attempts to co-play *Pokémon Red* that emerged in Red's behaviors led to fan art that split the character between the identities of "Red" and "Redbot," both of whom have distinct personalities and behaviors. The "Red" version of the character is commonly depicted as a human character whose experience as a conduit for chat's inputs manifests as suffering. Artists depict these inputs as causing Red to struggle with his body and identity as he questions how to process these feelings and impulses within him. Red's body becomes a playground for viewers, and this experience breaks him, causing him both significant trauma as well as social alienation from other non-playable characters in the game. Similarly, Redbot represents an equally worrying interpretation of co-play. Unlike Red, who is depicted as a human, Redbot is a stylization of Red that presents him as a robot. In these works, concerns about health and the fears of Red's companions are gone. In their place, we find non-playable characters within the game expressing befuddlement and confusion over the behaviors of this quirky little bot. Redbot does do unusual things because of the state of co-play that he finds himself in, but this character is distinct in that Redbot is not agonized by co-play like Red. Read alongside Red, the implication that emerges here is that although co-play is a common variant of parallel play, the labor involved requires one to either become a machine or acclimate themselves to perpetual emotional turmoil and abuse. Although both Red and Redbot are fictional characters, their depictions provide a window into the complicated emotional work that can arise from these forms of play when streamers and their streams become playgrounds for viewers.

As these examples demonstrate, both parallel play and co-play are significant methods for engaging with and sharing video games on live streaming platforms. While parallel play encompasses practices that aim to border play, co-play encompasses those that actively seek to transgress these boundaries. With each type, however, comes varied forms of labor with varying degrees of emotional work. To better understand the expectations and labor surrounding both types of play, we turn to the representation of live streaming fiction and documentation. As we explain in the following section, these fictional and imagined representations of parallel play and co-play provide a way of studying the mentality and behaviors in

live streaming. Specifically, we look to Guillermo del Toro's sensational summer blockbuster *Pacific Rim* (2013) as a particularly spectacular speculation on what the labor parallel play and co-play might accomplish. We use del Toro's film as an example framework for parallel and co-play approaches to live streaming because the emotional and affective dimensions are often difficult to grasp through quantitative methods and linguistic analyses of live streaming. As a product of the imagination, film provides a way of imaging the often invisible and in-articulable feelings that elide more discrete methods of analysis. Rather than a literal analogue for what streamers encounter, we present *Pacific Rim* as a rough framework for identifying the emotional and affective aspects for both forms of play.

Parallel Play and Co-Play in the Imagination

According to L.H. Stallings, "fiction, the surreal, and the imagination" all serve as means of knowledge production where the truths, pleasures, and feelings of our embodied interactions with others are forged (7). Conversely, products of the imagination (media, fiction, art, etc.) can provide valuable sites to grasp at the possible meanings and potential manifestations of these understandings. While live streaming has benefitted from numerous sociological and data-driven studies to help better understand the place of live streaming in individuals' lives and culture broadly, live streaming's place in the imagination and its products provides a secondary area to support and complicate these findings. Many popular live streamers, for example, have been remediated into Funko POP and LAMO figures as well as equippable costumes in various competitive video games. What we might gain by analyzing these products and their depictions of live streaming poses significant value to our goal of understanding the place of live streaming broadly. Furthermore, Amiri Baraka notes that the imagination also provides an opportunity to disrupt and remake modernity's accepted "facts" about the body and subjectivity:

> What is called the imagination (from image, magi, magic, magician, etc.) is a practical vector from the soul. It stores all data and can be called on to solve all our "problems." The imagination is the projection of ourselves past our sense of ourselves as "things." Imagination (Image) is all possibility, because from the image, the initial circumscribed energy, any use (idea) is possible. And so begins that image's use in the world. Possibility is what moves us.

Without engaging the imagination and its products, we risk missing opportunities to capture other ways of thinking and practicing a phenomenon like live streaming. Perhaps, then, studies of how live streaming and live streaming technology are depicted in various forms of media can not only nuance ongoing research on the current motivations and experiences of live streamers – these forms of inquiry could potentially help us speculate on its possible futures as well. While these depictions may not present exact replicas of our current reality, in those flickering moments of similarity and wonder we can begin to grasp realizations that elide raw fact.

We find much speculative value in the fantastical depictions of live streaming that appear in Guillermo del Toro's sensational mecha versus Kaiju film *Pacific Rim* (2013). Although the film's depiction of live streaming labor is entirely hyperbolic, del Toro's exaggerated representation of parallel play and co-play through a fictional technology called "drifting" provides some starting points for us to begin investigating the emotional labor supporting these practices. In the film, drifting is a mental link between two or more pilots designed to reduce the cognitive and physical stress of piloting giant robots collectively called "Jaeger" that are used to defend humanity from various Kaiju. Like parallel play and co-play in live streaming, both of which task streamers and audiences with performing the borders and intersections of their bodies and various kinds of media, this technology requires pilots to navigate a similarly complex stream of information. Yet whereas the examples that open this article focus largely on the surface of live streaming, *Pacific Rim* gets under this skin. While watching the drift between pilots, we witness them playing their emotions and experiences to and with one another to enter a state of "in-between-ness" where pilots feel and experience the memories and trauma of the other pilot. Whereas live streaming gives viewers little to no visual reference for the kinds of emotional work involved in navigating borders and synchronicity between streamers, audiences, and technology, *Pacific Rim*'s presentation of drift provides us with a visual metaphor for the invisible labor involved in navigating these boundaries.

The film characterizes co-play, depicted as synchronicity between the play of pilots' emotional and physical states, as a source of strength and empowerment. Creating and maintaining this state in which the pilots are both physically parallel but unified through the media landscape of their emotional "films" and the Jaeger mecha in some sense reflects what researchers have identified as one of the key pleasures of live streaming. In "Why do Audiences Choose to Keep Watching on Live Video Streaming Platforms?" Mu Hu et al. explain that live stream audiences

seek out co-play through what they identify as "cognitive communication" and "resonant contagion." Both terms characterize viewers' tendencies to pursue streams that provide a sensation of having their own thoughts and actions synchronized with a collective intellect and performance during a live stream. Although audience and streamer occupy vastly different physical locations, emotional states, and embodiments, Mu Hu et al.'s work highlights how transgressing these borders to find moments of "drift" with the stream and its streamers is a significant form of playful labor in live streaming.

A common example of this emotional and performative synchronicity appears as "hype trains," events during which enthusiasm and excitement between streamers and chat are brought to exaggerated levels of mutual pleasure. Beyond their uses for marketing upcoming video games and catalyzing donations, hype trains also frequently accompany exceptionally difficult moments in a video game or virtuoso performances skillfully executed by a streamer. In a sense, then, they serve as a means of shifting from parallel play to a form of co-play that allows audience members to collectively share and celebrate the burden and achievements during streamed video game play. They also galvanize both audience and chat into a shared emotional state that informs and guides their interaction with the various media presented in the stream. Although these moments cannot and do not reach the gratuitous extremes present in *Pacific Rim*, the film helps to visualize the often invisible attunements and emotional labor in this form of co-play.

While *Pacific Rim*'s depiction of drifting presents opportunities to us to examine the pleasurable and productive labors of parallel play and co-play in live streaming, it can also provide insight into the risks of these types of play. In one scene, the protagonists Mako and Raleigh participate in training for mutual "drift compatibility." During the training, Raleigh begins reliving the trauma of losing his brother and suffering significant harm while piloting a Jaeger during a mission five years previously. As Raleigh slips out of sync with Mako and into his trauma, Mako also becomes trapped in her own trauma as she is forced to relive a terrifying Kaiju attack from her childhood. As the two remain in a state of parallel play and slip further apart, their respective histories of suffering manifest in the operation of the Jaeger and activate the unit's weapons system, nearly destroying the entire base and everyone within. While this depiction of the risks associated with the emotional openness and connection that co-play can generate is certainly excessive, streamers are often forced to navigate pairings (both welcome and unwelcome) that can result in emotional harm and trauma.

Kishonna Gray's critique of visibility and exposure on Xbox Live voice chat serves as an important entry point to consider how co-play has the potential to cause significant harm. In her work, she describes how Xbox Live voice chat's lack of limits positions black women and men as targets of hate speech and abuse. In researching the experiences of black women and men on Xbox Live, she also gestures broadly toward the abuse that many women in competitive gaming spaces like *Overwatch* have noted when even trying to impose limits that would keep them safe (Chassidy). Popular streamer CriticalBard experienced similarly vicious and racially motivated attacks after Twitch featured his face as the "pogchamp" emote for the day, a decision that made CriticalBard's identity and community publicly visible to all users on the platform. CriticalBard's experience demonstrates how even various forms of media baked into platforms like Twitch can connect players in ways that grant unfettered access to vulnerable and minority populations.

As Ruberg and Cullen argue, the responsibility for absorbing, managing, and mitigating hostility of online spaces that arises during moments of co-play routinely falls on minorities and their communities. They write that, "[in] the context of video game cultures – which are often hostile toward women, people of color, LGBTQ people, and others who are marginalized...women streamers are expected to engage in more emotional labor than men streamers. The cultural and personal stakes of cultivating, performing, managing, and leveraging emotions successfully are also higher for women streamers" (86). As Ruberg and Cullen's interviews with streamers demonstrate, the emotional and personal toll of performing borders and navigating uninvited moments of co-play is vastly devastating for whom self-regulation and code-switching are daily practices of self-preservation within white supremacist and patriarchal systems. These experiences both literally and figuratively demonstrate how co-play can leave one corporatized, dislocated, and un-selfed by the aims of a homogenizing streaming culture.

Pacific Rim is by no means a perfect analogue to the possibilities and problems of engaging in both parallel play and co-play while live streaming, but it does present us with a framework to begin unpacking and understanding what these experiences may entail for both streamers and audiences. In the concluding section, we close by touching on several prominent examples of co-play

Conclusion

As our article has explored, both parallel play and co-play are significant sources of pleasure and risk in live streaming. Beyond their basic design and underlying labor, both styles of play ultimately serve live streaming as performances with rhetorical possibilities that have been leveraged by and against streamers as live streaming has pushed beyond video games into the realms of politics and industry.

Specifically, co-play's rhetorical potential was perhaps modeled best in United States Rep. Alexandria Ocasio-Cortez and Rep. Ilhan Omar's 2020 *Among Us* livestream. During the live stream, Ocasio-Cortez and Omar played *Among Us* with prominent streamers on Twitch's platform. As of the date of their stream, *Among Us* was a popular video game adaptation of the murder party deduction genre that tasks players with puzzling out who among them is a killer. The stream reached 435,000 concurrent viewers and was designed to connect through play with potential voters in the 2020 U.S. election about many of the key issues surrounding the vote. Joshua Rivera, writing for *The Guardian*, effectively summarizes the role of co-play as a campaign strategy that, on its surface, simply appeared to make the stream both entertaining and enjoyable. Describing chat's general response to the stream, Rivera observes that Ocasio-Cortez and Omar "achieved something most politicians attempt and fail at daily: they looked like completely normal people...that's the secret to Ocasio-Cortez and Omar's success: that, for a little while, they weren't opportunistic politicians, but motivated fellow citizens, just a couple of Twitch streamers among us." As Rivera gestures towards, playing *Among Us*, a game about hiding one's true identity from others through carefully crafted performances and rhetorical strategies that allow one to blend in with and around a larger group of others, perfectly encapsulates the play-based rhetoric of co-play. Had Ocasio-Cortez and Omar's session been broadcast through traditional means of broadcasting, it is unlikely that their performances would have generated the collective amplification that enabled viewers to see and experience them as "one of us." Mirroring a significant portion of their chat, streaming culture, and gaming culture through their on-camera performance and game play prompted widespread self-identification within the chat, and the amplification of these emotions opened up pathways for Ocasio-Cortez and Omar to discuss political topics in ways that felt candid rather than canned. Yet despite the massive success of this event, Rivera's reading also speaks to the perils of this practice as streamers and audiences (mis)recognize themselves as the sole agents playing with their identities when, in fact, they act and perform akin to *TPP*'s Red.

On February 11th, 2021, Texas lawyer Rod Ponton encountered co-play in another jarring form. Ponton logged into a Zoom hearing only to find that he had become a kitten. In the viral clip, Ponton's face had been altered with a visual filter that made him look like a kitten to the rest of his colleagues in the Zoom call. This image was produced with a face filter that had unknowingly been enabled on Ponton's software prior to the start of the hearing. The filter depicts a small white kitten with folded ears, large teary eyes, and diminutive mouth that conveys a doe-eyed fragility and sadness. The filter also included facial tracking animations that moved the kitten's eyes and mouth to reflect Ponton's own. As Ponton struggled to understand and resolve his altered appearance, his meek and panicked responses to his newfound identity and the perception of his colleagues expressed genuine concern and fear with being entrapped in a body and identity not his own. Stumbling over his words as he struggles to resist the identity projected into the Zoom call and, through the gaze and interactions of his colleagues, back onto him in a quick and what sounds like agonizing exchange of his identity, Ponton mutters "it's not...I'm not a cat." Instead of playing a cat, Ponton's experience and confusion emerged from the exact opposite: an image of a cat was playing Ponton. Through the visual filter, the cat replicated and imitated Ponton's expressions and movements, throwing a grown man into metaphysical terror due to a kitten filter. Although this example of co-play is comical, it visualizes the very real problems that breaking from parallel play to co-play in live streaming environments can cause streamers. Who (or what) plays with and upon streamer and audience identities can create significant challenges in navigating the emotional labor of live streaming. While this article begins the preliminary work of outlining and unpacking these two forms of play in live streaming, future research might begin to engage with various sub-genres of these two forms and their effects in and beyond live streaming.

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