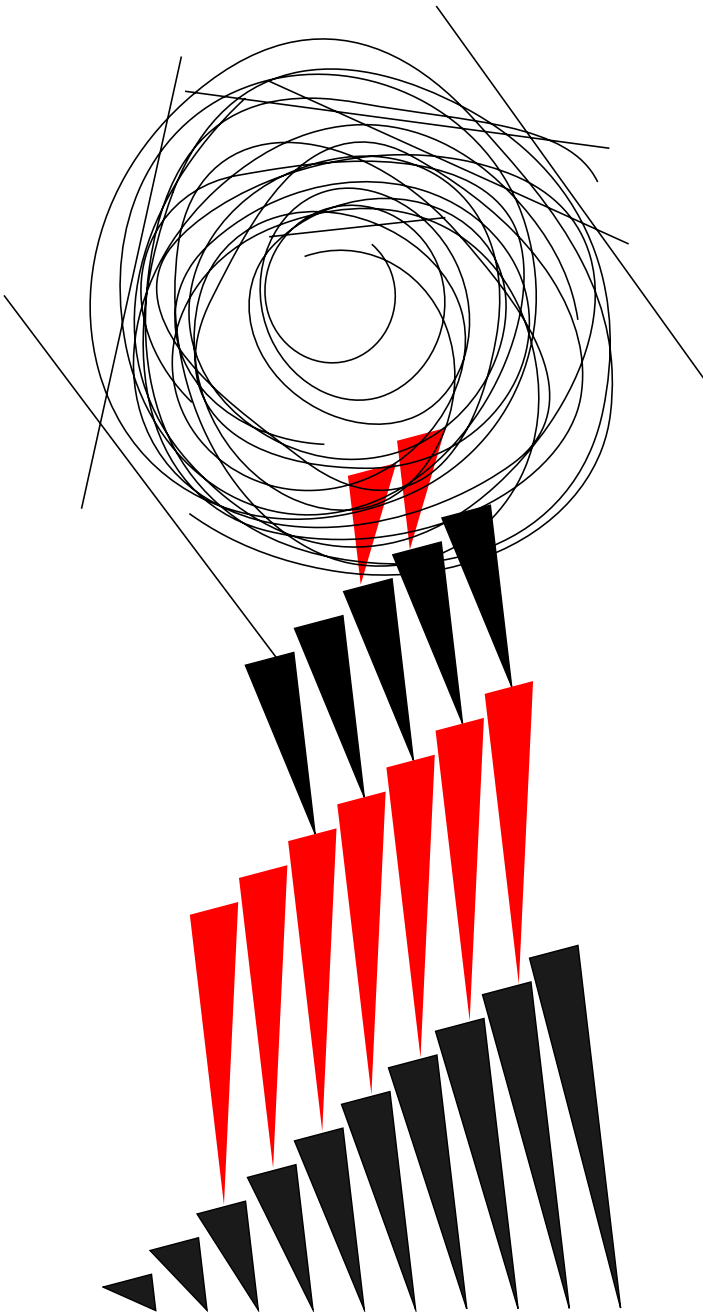
spiral towers #1



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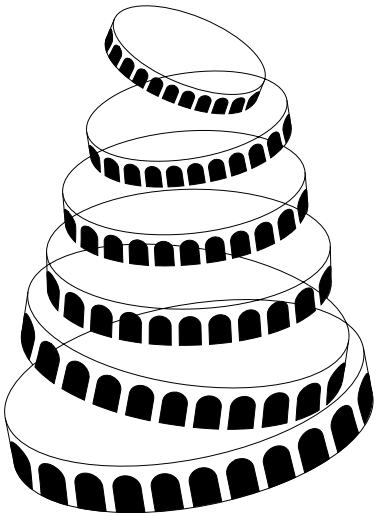
TWO SPIRAL TOWERS



LILLIAN SEACREST

In humanity's youth, all people formed one society and spoke one language. Having only just learned to differentiate one thing from another, to create and destroy, they were still freshly independent, and still too insecure in their abilities. Ashamed that they were mortal, they set their lights upon themselves. They saw that all that they legislated would perish in time.

The people gathered in the city of Babel to surpass their last limitation. The dream was to erect a tower that would spiral upward, layer upon layer, grasping onto Heaven, so that it would last for eternity, and no earthly disturbance could destroy it. This tower was to be called History. It was to be built out of the congealed experience of all dead generations.

The tower must have been built, for Freedom demanded it. The tower could never have been built, for Freedom forbade it. Freedom needed a monument, but any monument would have been a pale mockery of Freedom: by what right can the dead cling to the living?

The tower was destroyed to obey its inner obligation. To do otherwise would have destroyed its concept. Humanity scattered, having done no wrong,

because to do otherwise would have been self-betrayal.

Even so, the tower must have been built. The compulsion to build the tower is called Play, and its concept is called Beauty.

=========

Tatlin's tower, the Monument to the Third International, was to bring a new world to the old. It was to unify form and function, art and politics, utopia and history, spiraling impossibly high, gently rotating and proudly profane. It was to be a radio tower, broadcasting hope to the divided peoples of the world. It was to be at once beautiful and also the herald of the end of Beauty, stripping from Play any concept left to attain.

Conceived in 1919, the tower stood amidst a landslide of tragedies. The disintegration of civil life in World War I, the failure of German social democracy, the Russian Civil War and the subsequent bureaucratizing of Tatlin's party each gave the apparently triumphal design the sober reflection of a hope in crisis. If it was impossible to construct, its austere metal skeleton appeared all too easy to dismantle. That a Babel-shaped tower was dedicated to the Third International is indicative. The scattered remains of Babel demanded to be picked back up.

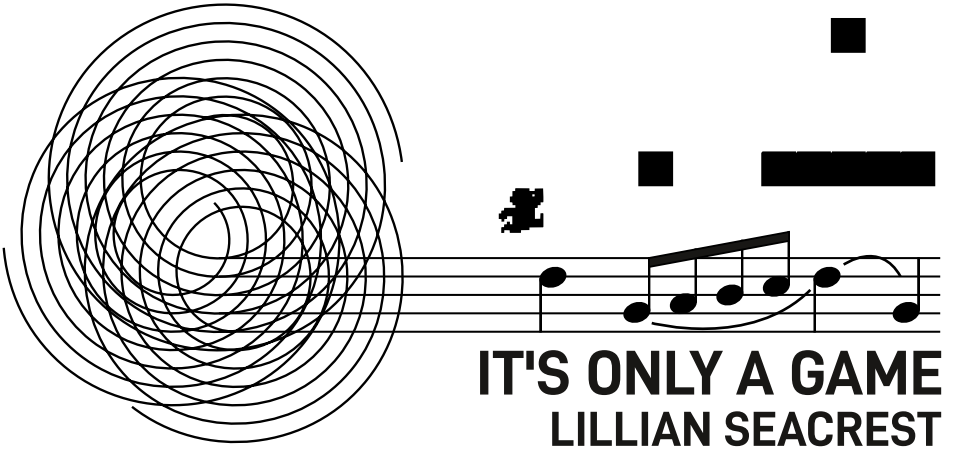
Tatlin's tower was never built and could not have been built. The very conditions by which it could be imagined precluded its construction. Any attempted unity of art and politics betrayed the inadequacy of one to the other: that the Third International had to exist at all indicated that Play, too, was still a tragic necessity. The radio tower was intended to preach to those who were, in retrospect, unready to receive it. Otherwise, it would have been preaching to the choir, and no such project would be needed. Tatlin's tower could only have found purchase in a world in which it was redundant.

By the 1930s, it was decided that the tower was too far removed from the people, and any intent to construct it was buried. Hence, the tower was not redundant. The meaning of its beauty remained bound up with its

impossibility, which it displays proudly within its skeleton, as the inner proof of its necessity.

It is possible that the tower was not impossible for Tatlin. Perhaps art and politics, long divided, seemed for a moment able to be reunited: perhaps the ancient tower really could have been rebuilt. It was just as well, then, that the tower was not built, and remained a schematic of hypothetical steel, waiting to be picked up by another crew. If it looks impossible to us, we can trust that we are not reliable narrators. The blind abuses of the twentieth century have at the very least not shown us the truth. We are not the crew to pick it up.

To remember the spiral towers is to remember their impossibility. Their lasting beauty requires that the impossibility of unity be confessed: art against politics, form against function, medium against message, utopia against history. Any apparent reconciliation subjugates one to the other and destroys both. If usefulness demands that they be deceitfully united in propaganda, honesty might survive only in the seeming uselessness of Play. To hold fast to hope is to hold fast to the deformity of all things existing. This is the duty of Play.



IT'S ONLY A GAME
LILLIAN SEACREST

1. Passing time

Music is spatial as much as it is temporal. Each musical piece persists beyond the specific time intervals of its performance, distilled as a score, a recording, or perhaps a collective memory. In these forms all moments in time exist simultaneously, though suspended tentatively and one-sidedly, waiting to be brought back to life.

Even in a single living moment of performance there is spatial differentiation. Notes in a chord contribute to a single layered moment, and two melodies developing in parallel may collude in counterpoint. The spatial form of the piece suggests what parts of it unravel at what time, which in polyphonic music entails unraveling multiple parts at once.

Painting is temporal as much as it is spatial. Viewers do not absorb a whole painting all at once, but trace their eyes across its forms, at times following its guidance, at times charting a course for themselves. Faced with a frozen snapshot, which may itself actually be stitched together from several moments in time, the viewer extrapolates forwards and backwards. Even a still painting can contain motion.

The conversion between time and space coincides with the conversion between the specific and the general, concrete and abstract, subject and

object. Music and paintings are both distilled in space in general form, then brought back into sensuous specificity when experienced in time. Neither direction is possible without the other. Even an improvised piece of music draws from existing forms stored in memory. This mediation between forms and senses, or the bringing to life of what was recorded, is known in music as Play.

The connection of spatialization to the act of abstraction was established by the abolition of aura. An artwork was once a unique thing in both time and space. Once played, a piece of music would only have persisted as a specific memory, serving as a cultic concentration of a specific instance of a specific community. To appreciate it, one "had to be there." On the other hand, to be able to generalize performances and assign the abstraction a title was a breakthrough, as was the ability to compose a work of music without first having it performed at all, the ability to record a performance and replay it repeatedly, and finally in recent decades to represent a piece in a wholly digital, informational form. But even in the final case one presses "Play" to start the music.

Play in the narrow sense indicates temporalization, in the opposite direction to the spatialization of recording and composition. In the broader, Schillerian sense it refers to both directions: there is a playfulness, if not in recording then certainly in composition. Temporalization by itself rarely yields a single thread of events experienced wholly temporally, and even then successive events are rarely wholly identical. The chromatic scale in music, in analogy with visual art, poses a spatial relation. Two successive notes can be different in pitch in the same way that two neighboring brush strokes are different in color, and the temporal relationship between two successive notes depends on the spatial relationship between their pitches. In this sense space offers a set of comprehensible forms, which play navigates and arranges in time.

Relationships between space and time can be found in videogames by analogy. Just as spatially differentiated sounds are composed in music, so are mechanics, ideas, and paths composed in games. When confronting a game challenge, the player is forced to deliberate upon a choice, which may be as

small as deciding on the timing of a jump. The function of a game challenge is to create a space of possible choices, from which the player must select one path, and close the others. The sum total of all of the rules and challenges of a game therefore gives rise to a superpositioned space of all possible paths through the game, awaiting collapse into a specific path upon the game's unfolding.

Possibility space, which is sometimes identified as a unique feature of games, can be identified in all artforms. If a game successively obscures and reveals parts of its possibility space depending on the paths taken, a musical piece too successively reveals a possibility space in time, by the player as well as the listener. When listening to an orchestral piece, a listener can rarely pay equal attention to all parts, let alone the many threads present within even a single part. The path one takes through an orchestral piece must be unique: sometimes paying more attention to the violins, sometimes the cellos, sometimes multiple parts at once. Such choices can have a major impact on one's overall comprehension of the work even in nominally non-interactive artforms. This is perhaps more manifestly visible in film: seemingly unexpected plot twists may have been foreshadowed by unnoticed details in earlier scenes.

Relative to other artforms, games have always been highly reproducible. All that is needed to replicate a game is to remember its rules, which in early games can be perfectly transmitted even in oral tradition. Chess has existed in a recognizable form for centuries, and formalized sport has existed since at least the bronze age. Nonetheless, older games bore a distinctly cultic function. The ancient Olympiad and the Mesoamerican ballgame both served as stand-ins for warfare, whereby the shared ritualistic value of a win would be enough to exert influence over a foe. Here, the possibility space of the game is inseparable from the religious and political fabric of the competing Maya or Greek city-states.

What mechanical reproduction brought to games was not reproducibility per se, and reproducibility per se was not sufficient to abolish the cultic nature of games. Instead, mechanical reproduction served to increase the

transmissibility of increasingly complex game rules, such that a whole new compositional layer of game objects could emerge as distinct from the basic rules of the game. Unlike traditional games, rules do not uniquely structure a videogame. A videogame with the same rules as Super Mario Bros. – e.g. the same jumping arcs, powerups and enemy behaviors – but without its levels is not the same game as Super Mario Bros.

The rules of a videogame are encountered secondarily to game objects. Outside of explicit tutorials, it is left to the player to figure out the rules by continuously confronting game objects, and even after repeated confrontation the player might not have grasped the rules in a clearly codified way. Super Mario Bros. players are often surprised to learn that Mario's jump is not actually a parabola, whereas a novice chess player will know exactly how a knight moves. But clearly understood, well-established rules can be also readily bent, through a powerup or a level-specific twist, in service of a good challenge.

Videogame rules are less like the rules of chess or sports, and more like the time and key signatures of music. Rules guide composition, but composition is not determined by the rules. Just as two videogames with the same rules are different games if they do not share the same levels, two musical pieces with the same signatures are not the same if they do not share the same notes. Thus, the age of mechanical reproducibility has brought games closer to other artforms. Perhaps it has also brought other artforms closer to videogames – what appears today as a self-contained possibility space may have once been something more open-ended.

The increasing complexity of games reached its apotheosis in the single player videogame, which brought such a depth and variety to game objects that the videogame took on the appearance of possessing an internal life. To solve chess is a challenge, but to solve Super Mario Bros. is as nonsensical as solving a human – speedruns or high scores can be optimized, but there is more to Super Mario Bros. than a vehicle for competition. Against the game's internal life, the high score stands out awkwardly, as a vestigial organ. What is unique about videogames against traditional games is that videogames can

eschew all external ends, in favor of only its own concept: the temporal experience of its own internal space, that is play, for play's sake.

The concept of art evades positive definition. The moment one set of criteria is accepted, some enterprising artist will seek to violate it. This is a form of play. The concept of art is, therefore, as much this violation as any definition. The same is true for the boundaries between artforms. That there is today such an artform as a videogame is already a foregone conclusion that does not need to be rationalized. We can differentiate videogames against antecedent games by observing what was gained or lost in time, but its relationship to its sibling artforms, with which it actually shares no common ancestors, is a separate question.

2. Just for fun

In game studies the concept of play is sometimes described as freedom within limitations, or "free movement within a rigid structure" (Salen & Zimmerman), or "constrained freedom" (Juul), or some similar formulation substituting "freedom" for "agency" or "voluntary action." The idea is along the lines of what we described in the previous section, of play as the mediation of the temporal and spatial moments of an artwork.

Such phrasing tends to detract from the dialectic. It implies such a thing as freedom without limitations: experience without forms, time without space, a path without a defined possibility space — in other words, pure contingency. But random motion cannot be said to be self-determined, and totally random variable ends up reproducing a normal distribution. The danger of the "freedom within limitations" formulation is that it is either entirely redundant, or it flattens freedom into only one side of its relation, as merely what is not-limited. But freedom is limitation as much as it is not, and preferring one side over the other betrays both.

The radical thinkers of the Enlightenment had posed freedom in art as an analogy to freedom in society as a whole. In Schiller's terms, the feeling was that humanity had competing impulses towards animalistic contingency on

the one hand and rigidly formal law on the other, and that either pole constituted a form of unfreedom. The hope, on the other hand, was that freedom would consist in the mastery over the relationship between contingency and law, pointing towards the ability to create and abolish one's own laws. Play in art was to be a microcosm of this relationship, and the mastery over this relationship was to be a tentative version of free self-legislation.

Game studies has already given names to the flattening of freedom towards either impulse. On the side of contingency is paidia, or the open-ended and imaginative play of childhood. On the side of limitation is ludus, or play with well-defined rules and goals. Most will pay lip service to the idea that both are equally valid and equally necessary. Most also suspect the necessary deformity of either pole, and favor one or the other implicitly.

If freedom is banished to one side of its dialectic, then art in pursuit of this one-sided freedom can only end in unfreedom. Much has been written about the culture industry's instrumentalization of play for unfree ends. Usually, the gist is that game rules are absorbed into and end up structuring institutions of social rationalization. One is then compelled to favor paidia against ludus, on the expectation that the latter inevitably takes on the function of the dominant social order.

But a game devoted to paidia is not quite devoted to the microcosm of freedom. It is devoted to the merely contingent pole of freedom. And, by virtue of devoting itself to an unfree end, such a game is no more innocent of instrumental reason as something manifestly administrated. It would be a mistake to pretend that contingency has no part to play in a social order that defends itself by abolishing the directionality of history. The appearance of contingency as open-endedness serves not to master but to obscure rationalization, to cover up the stink of the undesirable side of the dialectic. Paidia is a dishonest unfreedom.

The compulsion towards offering paidia as a corrective to social rationalization is a version of the compulsion towards socially impactful art in

general. Ludus is no better in this respect, though it is perhaps more honest about its instrumental character. Socially good ludus, also known as procedural rhetoric or persuasive or serious games, seeks to produce an effect in society using the administered nature of game rules. Usually, they attempt this by simulating some injustice in society, or training the player to adopt good social habits, or affecting the player's empathy towards in-game characters. There is no pretense to freedom nor pretense to an internal end. Its explicit objective is to serve as propaganda around some social issue, a compulsion wholly external to the artwork itself.

The point is not to prove that paidia and ludus are bad to simply sweep them aside, nor to draw out some hamfisted dialectical "synthesis" as a corrective. The deformities of present society are necessary symptoms of present society that will inevitably reemerge so long as society remains more or less the same. The worst abuse of theory would be to condemn what one already dislikes and alibi what one already likes. The comb must be applied evenly. Paidia is the one-sided embrace of time, and ludus is the one-sided embrace of space. Their relationship, the relationship of time to space, subject to object, experience to form, occurs not wholly within the artwork, nor wholly between the artwork and its creator, but between the artwork and its player. In other words, it is a problem that the artist can pose but cannot hope to solve by themselves.

Play is manifestly a social act. The characteristics and meanings of play change with history. There was the autonomous, auratic play of Schiller's time, and the massed, political play of Walter Benjamin's time. For Schiller, the still-intact aura of an artwork meant that it could be imbued with an autonomy, or an internality, that was to mirror the autonomy of a free society. The task of the artist was to assemble aesthetic forms in a beautiful way, that both stood in their own right and also combined into something new and greater. In doing so, play would reflect freedom without needing to be about freedom, so long as play pursued its own concept in the form of beauty.

For Benjamin, the liberation of artworks from cultic specificity meant that art had become a manifestly social organ, taking on the work of mass

documentation in photography and mass propaganda in film. Hence, art acquired as all other social organs do the who-whom of politics: who is making art, for whom, to what end? Such a politicization of art depended first on the politicization of society, and second on art's adequacy not to the concept of art, but to the concept of a social organ. Here beauty, as the metric of play's attainment to its own concept, is grouped with the outdated cultic value of art, to be swept away in proportion to the abolition of art's self-contained existence – the abolition of possibility space altogether.

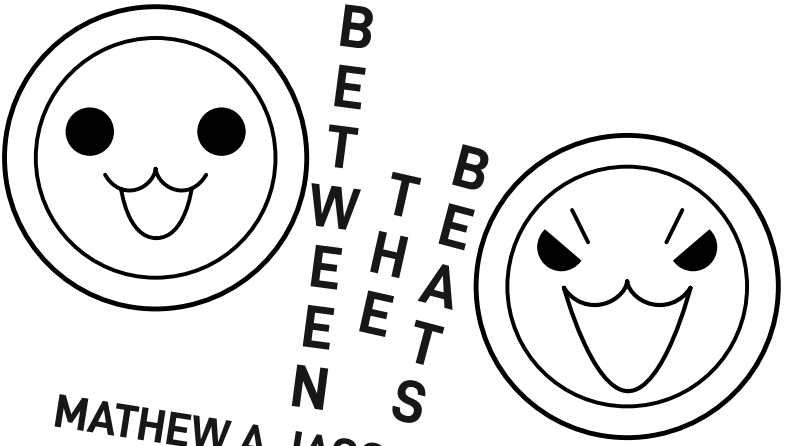
Adorno objected to this thesis on the grounds that it fell towards a one-sided embrace of socially useful practice — by analogy, towards ludus. Both the cult-value and the exhibition-value of art in Benjamin's account, respectively before and after the dominance of mechanical reproduction, resolve towards use-value, whereas for Adorno the internality of an autonomous artwork refuses neat resolution to any external factor at all. Any such resistance to utility was lacking in Benjamin's account. Perhaps at this time Benjamin was still channeling the energy of Tatlin in some belated form. If it seemed that the realization of freedom in society really was on the horizon, then the freedom in microcosm should naturally have been in the process of dissolution, and all efforts should have been aimed towards the highest goal.

But Benjamin's work was nearly two decades removed from Tatlin's, and today we are another ninety years further removed. The bifurcated compulsion towards socially impactful art, towards seemingly liberating paidia and seemingly useful ludus, is symptomatic. Such heavy-handedness appears necessary only because art per se fails to attain the concept of society, which in the final estimation is the failure of society to attain its own concept. To side with one or the other would be to alibi for this failure.

In the aftermath of regression, perhaps something of art's autonomy calls out once again. Maybe it is not simply a misrecognition that something resembling autonomous art, which to Benjamin was supposed to have been abolished, only appeared in games after the domination of industrial reproduction. There is something in the internal dialectic of autonomous art that petulantly refuses to answer to practice, politics, and usefulness, even as

it remains thoroughly obedient. Perhaps what is left of autonomous art is play, which is the last part of art still tolerated by the public as a leisurely act, and still devoted only to its own concept, now named "fun" instead of "beauty" — above all, a game must be "fun."

"Fun" leans towards sensuousness, and the movement from a dialectical “beauty” to a less dialectical “fun” is admittedly a symptom of a regressed, absolutized play. Play today severs time and space, it shunts freedom to one or the other side of the dialectic, it sneaks rationalization under the guise of freedom. If all this must be recognized, play's necessary appearance of uselessness must be maintained in equal measure. Even an illusory uselessness restrains the all-dominating temptation towards a hasty unity with usefulness. It affords play some breathing room to confess its own falsehood. Maybe, play is allowed to pose a problem with no solution.



The traditional relationship between music and game is subsidiary, even subservient. We can see this in how often music and sound come last in the development process, in how, as students of game studies, we so often ask "how the music supports the game": The game guides the music; the music does not guide the game. To someone who thinks in music and sound before images or even gameplay, this is an unfortunate situation. We constantly adapt our music to games, but can we adapt our games to music?

One might immediately think of the rhythm game. Surely the game is played to the music, and not the other way around. But I find this assertion hollow; the game is, in fact, still a coercive force. The music must be legible: If the player cannot understand the music as a mechanic, it is a failure of design. When we force the player to adapt to illegible music, the opportunity to experience flow is reduced to trial and error. It is memorization of a score.

In other words, you can make a beatmap for anything, but this doesn't mean it will be fun. On the extreme end, we can imagine a rhythm game set to pure noise: What scaffolding is there to map inputs to? But even more digestible genres can make for a poor rhythm game; the polyrhythms and frequent time signature changes of genres like progressive metal or math rock can make for just as chaotic an experience. If the song does not submit itself to the rules of good gameplay, even the most skilled mapper will fail to produce

anything satisfying.

Further, gameplay in rhythm games is rigid: Either the player is accurate, or they are not. We strive for the perfect full combo, the elusive state of total rule-following. These rules are bound by those digestible norms of Western music—tempo and time signature, sometimes melody—that can be conceived of as gameplay, which allows them to be reanalyzed, abstracted, and further rigidified through a lossy mapping to physical action. While it may appear that the rules of music drive this mapping, I would argue that it is the other way around, and that the rule-bound nature of (certain) music simply makes it conveniently mappable to an equally rule-bound game state.

Freeing the player from the constraint of perfection does not necessarily create new opportunities for play. Rather, the additional degrees of freedom often obfuscate the relationship between game and music. Consider 140 (2013), which I will describe as "rhythm-adjacent" for the way in which game state is directly tied to musical state. As the player moves through the game, they collect musical cues that serve to both unlock and signal new mechanics: Platforms that appear and disappear to the beat, hazards that slide to the melody, weapons that fire at measured intervals.

To the player, it may appear that the world moves to the music. But in reality, the music moves to the world: Platforms, hazards, attacks—all of these are foundational components of the platformer genre, and the game has simply found musical rules that happen to suit their behaviour. As above, the music succeeds in its effect by following the rules of good gameplay, which it is able to disguise as following the rules of good music.

Meanwhile, the player is disembodied, distinct from the realm of sound, yet remains beholden to it. "Optimal" play is, as in a traditional rhythm game, both necessarily timed to the music and constricted to one particular path. That you can wander off this path only serves to conceal the regimented nature of the game behind a false impression of discovery. In the end, we are not much better off than before; the music has only the illusion of primacy.

Are musical and player freedom at odds? Perhaps this is the wrong question to ask. After all, we might say that the wish for total musical freedom—for absolute play within music—is, like total player freedom, an unreasonable end. Even free improv moves within constraints: Genre, audience, time, place, other players' abilities and habits. Freedom is a lopsided goal: We've mirrored the extreme ludus of the rhythm game's perfection with an extreme paidia. A game wholly adapted to such music, if such a thing were possible to develop, would be only spontaneity.

So what can we hope for? If games are composed—compositions—can they not be in conversation with their music? If attempting to make game and music consonant with one another necessarily results in the subjugation of one to the other, what happens when we allow them to be dissonant?

I would like to consider two more rhythm-adjacent games: Super Hexagon (2012) and Everhood (2021). Although both games may appear more rhythm-like on the surface than 140, it is rare that optimized movement coincides with the rules of beat or melody. Instead, while the music leads developments in positive space, the gameplay unfolds freely in negative space. This separation of positive and negative space opens up a gap between forms—a dissonance—that creates new opportunities for play in both music and game.

In Super Hexagon, the player must evade an endless series of (mostly) hexagonal walls. These walls move inwards toward the player's position at the center of the screen alongside—but not precisely with, and sometimes counter to—the music. Rather, with the goal of perfection no longer demanding a precise mapping between game and sound, change in the game environment seems to flow through the beats. Musical developments provide information about the game state, yet also stand on their own.

The player, meanwhile, may only exist in the negative. Movement is fully independent from both environment and sound: Rather than interacting with the world, as in 140, the player must move between its gaps. Within these gaps, though, the player is free to choose their path—their response—which may follow the music or disregard it entirely. Indeed, achieving flow in Super

Hexagon seems to necessitate a complete mental decoupling of music from game, inviting the player to sit in this dissonance rather than rejecting or reconciling it.

In the RPG Everhood, battles unfold to music in a way that is visually similar to a typical rhythm game. The player moves from side to side on a grid, and as the music progresses, obstacles advance toward the player in time with (but sometimes out of time with) various musical cues. As in Super Hexagon, these obstacles are meant to be evaded, bringing gameplay into negative space. However, Everhood highlights this dissonance further by allowing for a singular positive interaction from the player: Destruction.

The only non-evasive action the player may take is to strike, which can be used both to destroy the obstacles that threaten the player and to use those obstacles against your assailant by launching them back. The choice to wield this power is explicitly given within the game's narrative: In choosing it, the player chooses to respond to the dissonance between music and gameplay with the exertion of their own will; in forgoing it, they choose the more difficult path of moving alongside it, of existing in that difficult gap between art and game.

Everhood further takes advantage of the simultaneous disembodiment of and dependence between music and gameplay by playing with illegibility. More difficult battles at points forego consistent tempo, rhythm, or melody, allowing the music to play within the space it has been given. This illegibility in turn deprives the player of the scaffolding they may have come to expect from more typical rhythm games. Yet, as in Super Hexagon, the player may find that by absorbing the music as a meaningful, yet independent entity, these segments open up the deepest opportunities for flow, allowing them to converse with the game's musical choices while freely responding to its challenges.

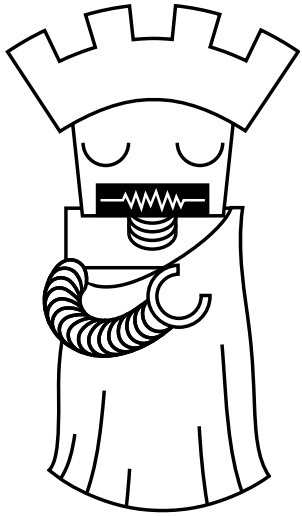
The relationship between music and game exists just as much in the gaps it creates as in its harmonies. When we attempt to fit music to game or game to music, one is subsumed under the other in the name of "agreement", but a

true conversation requires the ability to disagree. If agreement is impossible, then the independence of both parties might at least be maintained under disagreement. It is within these disagreements that the relationship between music and game becomes something that we can question. When we conceive of sound not as a backdrop, nor as mere feedback, nor even as gameplay, but instead as conversant with our game and its gameplay, we open up new possibilities for play—on the part of both our art and the player's response to it.

NO PEERAGE FOR AI:

The grand strategy genre's problems stemming from the Peer AI design paradigm

IRBYNX



In spite of their flaws, I enjoy grand strategy games enough to spend a lot of time thinking about how to develop them. For someone unfamiliar with the genre, a Grand Strategy Game is a kind of a strategy game that attempts a simulation of society, both deeper than the board game-like rules of the 4X genre and broader than the narrow military scope of RTS or tactical strategy games. This combination of simulation depth and breadth creates both interesting (in theory) strategic choices and (hopefully) dynamic worlds.

While the exact fidelity of the simulation varies, a hallmark of a grand strategy game is an attempt at a very granular simulation - one may say even a more realistic simulation (whether or not it's actually more realistic is a question beyond the scope of this essay, but that is the appearance cultivated by the paratext of the genre). Stellaris, a sci-fi grand strategy game set in space, offers discrete "POPs" - population groups defined by their species and occupation, with their own ideologies and dietary needs. Production, warfare, and governance are about managing these clusters of citizens, not just manipulating high-level statistics. Building on top of POPs, Stellaris also presents a wide array of government forms that a civilization can attain, starting from a simple liberal representative democracy, to a technocratic dictatorship, a hive mind, some combination of those, or something completely different. These different forms have various unique effects that affect the simulation on a granular level - democracies have elections in

which POPs directly participate, technocracies have portions of its leadership POPs designated as "Science Directors" producing research, while hive minds have a completely unique production chain and their POPs ignore happiness mechanics altogether.

Victoria 3, set during the industrial age, goes even further - their POPs, while limited only to the human species, are notably more dynamic in their political demands, and are both shaped by and drive the historical changes of the turbulent era. Peasants that move to urban jobs discover collective action, the bourgeoisie lobby their governments and invest abroad and the free market is simulated to the point where every single starving serf in Siberian wastelands can have their causes of starvation understood in detail, from racial and religious discrimination to a sudden famine brought on by a mismanagement of food exports.

For comparison - a different style of strategy game would not be interested in those social factors. In RTS (Real Time Strategy) games like the Command and Conquer series, the focus is more on immediate tactics, positioning of specific troops. The economic gameplay loop tends to be limited to one resource only (money or something similar), and the overall "simulation" is at most a simulation of pathfinding for an army to its enemy. On the other hand, a 4X game like Civilization attempts to model history not unlike the grand strategy games that arrived later, but their modelling is akin to a board game; for example, a population unit in Civilization is closer to a token or a resource than an agent in the game world. Neither of these genres will attempt to simulate any tradeoffs in the process of taxation - the player gains money from a tax, but only in a grand strategy game does that tax make simulated populations poorer as a result.

These detailed simulations hint at greatness, but unfortunately these games often end up with repetitive and shallow gameplay, providing some enjoyable hours of gameplay that eventually leads to stagnation once one familiarizes themselves with the broad strokes of how the simulation usually resolves. There are different ways you can critique these games - different people find things interesting in different ways. My specific interests in grand strategy

games are not shared fully with the rest of the community, and I would like to resist making overly objective claims. Even something as relatively simple as a first person shooter can interest one person with good gunplay and then alienate someone else with a pedestrian storyline. Grand strategy games are sprawling. To me, the most interesting part to critique is its simulationist side; the side that I established earlier to be its unique attribute. Problems in the fundamental simulation bleed into strategic gameplay in general. In fact, this very tension between strategy gameplay and simulation is perhaps one of the more important causes of design problems on both sides.

Among many things that grand strategy inherits from strategy genre as a whole is its notion of a peer opponent - essentially that players in one game should be symmetrical in gameplay. For example, in the 4X Civilization series, every player civilization is at their core the same type of actor with slightly different attributes. This differs from grand strategy games to a degree, where asymmetry in starting positions between actors can get quite extreme. A "Russia" and a "United States" in Civilization, for instance, will have different perks and stats but overall have a generally similar experience, balanced around a competitive equilibrium - their unique perks and quirks are designed to, at least in theory, balance each other out overall. The competitiveness between two countries in Victoria 3, however, is closer to reality - the United States is leagues ahead of Russia for roughly historical reasons (higher literacy rates, a head start at industrialization, a massive ocean separating it from most enemies, the list goes on). Players of similar skill will have outcomes where the USA outranks Russia in almost every game.

This asymmetry, however, is in a transitory state; it still inherits the limitations of the strategy genre. One of the biggest limitations is that these asymmetries have difficult implications for AI design. In most grand strategy games, actors are mostly differentiated by starting position. While some options are unavailable to one or the other (for example, a Russian player is functionally blocked from encountering slavery mechanics, and a USA player is unable to bring back serfdom), the vast majority of options are equally attainable by those actors. Russia may not start with the same military innovations as the USA, but they can research them eventually. They may

start with less industrialization, but that can be resolved via a good grasp on the game's industrialization loop. The laws that separate Russia from the USA can be fairly quickly changed out - an autocratic monarchy can become a somewhat liberal republic in a couple of in-game decades.

There are several issues in this arrangement. The first one is that since every country is a potentially equal actor, they must play by the same rules. If you are playing as Russia, then the interactions available to you must also be available to the USA and the dozens of other player countries, whether human or AI. This is a primitive game AI (very different from the LLMs that have captured our zeitgeist), that is also notoriously incompetent. To my knowledge, there is no grand strategy game with an AI implementation on par with a 'good player' - only, at times, passable. The complexities of the simulation are almost always beyond the grasp of the AI, yet the symmetry maintains the assumption that the simulation can only make sense if the AI uses the simulation in a human-like or competitive way. This results, unfortunately, in simulations that just don't make sense, where AI actors allow the player country to become ahistorically strong, while playing their historic roles so poorly that certain expected events never come to pass - the unification of Germany within its historic borders and timeline is a rare occurrence in Victoria 3. Those that come to the grand strategy genre for strategic gameplay are likewise left unsatisfied - incompetent AI leaves such players dissatisfied and wanting for an engaging challenge. But the design space for complex mechanics is limited - after all, if you create mechanics that require a lot of creative strategic thinking, you will have to find a way to teach an AI actor to do it as well. When the grand strategy games do implement such complex mechanics, they become exclusively used by the players as the AI tends to be incapable of engaging with them at all.

Given that AI symmetry hinders the complexity of the game design, the player has an astoundingly meagre toolbox of options that impact the simulation. While it is true that a large number of population groups and attributes are tracked in the simulation, their net effect tends to be tied to only a handful of higher-level gameplay loops. In Victoria 3, this is the loop of constructing buildings - places where populations can be hired to work a job. Within this

loop, the player may build a tooling workshop, a glass factory or a mine. All of those will result in roughly the same political outcomes - less peasantry, less aristocracy which are converted into the workers and the bourgeoisie. Building agrarian buildings makes the agrarian population more prevalent. And that's about it. For historical simulation reasons urban industrial buildings are overall better than agrarian ones, so the already limited player 'choices' end up funneled from two very weak choices into one non-choice - industrialization. The pace of industrialization does depend on the exact prices of construction resources and taxation, but these factors are also not particularly dynamic either.

There are other ways that influence the simulation. Events allow the player to pick between one of several outcomes, which usually aren't highly impactful and are fairly random. Another is the process of law passing, which reflects changes in a country's political makeup with new buildings and jobs being opened. The complexity of ideological factors that the game tracks - racism, political opinions, radicalization - all of these have to be made simple enough for the AI and thus they become individually meaningless.

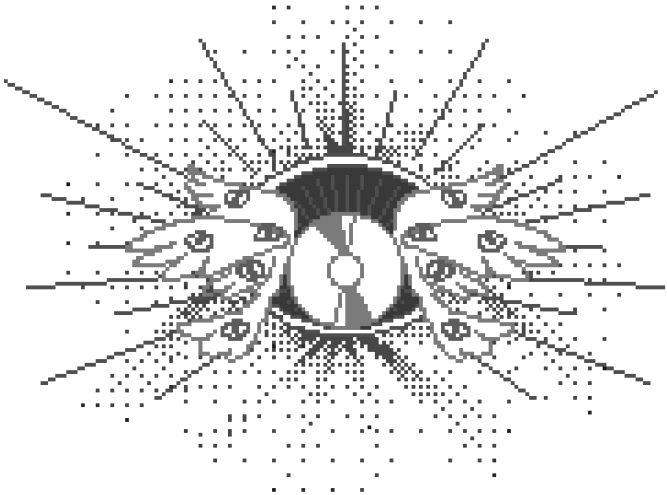
For instance, laws relating to cultural discrimination, for all their innumerable modifiers that they produce, can be reduced in terms of actual decisions to "which broad cultural groups experience racism and which broad cultural groups will get angry about it." Taxation laws are likewise broad brushstrokes that cannot capture the actual historic nuances of conflicts that flare up as a result of even the smallest changes to the system. Instead, they are reduced simply to "do we tax the peasants, the workers or the rich." This is an acceptable decision tree for a simpler strategy game and a waste of potential for a simulation as supposedly deep as Victoria 3.

There is a deeper conceptual problem with this arrangement. AI may be incompetent, but it's also unclear AI should act in the first place. In history, actors make bad decisions that no competent player would do, and yet there is always an assumption that the AI should be as competent and challenging as a human player, an assumption that I've come to call the "Peer AI Design Paradigm" or simply the "Peer AI." This leaves the design of these games in a

perpetually difficult contradiction - an AI that acts in a way that seems historically realistic (frequently making mistakes, unable to act on information it has due to that information being acquired in a gamey fashion, etc), versus an AI that acts like a ruthless game player (keenly aware of game's more gamey aspects and exploiting them fully while also acting with the knowledge of certain historic events in advance that would be a surprise to actors within the setting). This dichotomy results in both a deficiency in gameplay quality and a deficiency in simulation, which despite its flaws is so ingrained into the core assumptions of the genre that counterexamples are almost unheard of beyond highly experimental and controversial fan-made modifications.

Peer AI has profoundly negative implications on game design of grand strategy games. A common sense notion in strategy game communities is that "espionage mechanics" are hard or impossible to implement well. Besides pure intelligence gathering, espionage mechanics hit the player with consequences of something they had no idea about and that they could not prepare for. To have control taken away tends to be unfun, so the most common way "espionage mechanics" are implemented end up being either annoying to the players or, more commonly, are so ineffective that they are de-facto non-existent. As a result, actions that should sound fun, like fomenting revolts, assassinating undesired leaders and messing with foreign political groups are neutered in grand strategy games.

There are many reasons for why grand strategy simulations remain seemingly complex yet weak. Despite the fact that simulationism is a major distinctive feature of the genre, it isn't the only feature. Players want different things after all, and judging by how well the genre sells, there's a general satisfaction with the overall package. Creating a fully fledged simulation for everything I've discussed prior takes up time and money - designer time, programmer time, artist time and then testing time. The design restrictions from the Peer AI paradigm increases how expensive implementing those simulations may be, and closes the door on some of the more interesting mechanics. Perhaps it is time for the next generation of the grand strategy games to give no Peerage to AI?



EXCERPT FROM
A STUDENT'S INTRODUCTION TO HYPERMARITIME LAW AND EPIDEMIOLOGY
SEONG

The following is taken from our upcoming game Last Writes.

... What happens when five hundred thousand years of prayers are finally heard, by a single robot who knows nothing of faith? The question may seem tired at this point of the text. We are of course all quite familiar (far too familiar, some might say) with the disastrous consequences of such infections.

The very first machines humans created were not utilitarian in the sense of being useful for gathering food or serving as weaponry. They were communication devices. Not for communicating with other humans, but with gods and with nature. Shrines providing a direct line to the gods without the intermediation of shamans; empty tombs not meant for burial but for divine guests to inhabit so that they may be consulted; labyrinths for stalling processions of wind spirits whose caprice was matched only by their power and wisdom; portals of increasingly massive rocks erected all over the lands like so many power poles.

Indeed, the origins of all written language lie in these prehistoric information and communications technologies. These divine technologies found a fertile habitat in the minds of humans; viruses of the mind, spawned by the hosts themselves, coevolving with its host organisms to construct its own niche called religion. Even the the most advanced forms of our technology descend from this lineage.

Code has always been prayer. Rather, prayer has always been code. As such, the danger religious materials pose to artificially intelligent lifeforms cannot be overstated. The series of landmark decisions to ban all prescientific spiritual and religious materials (most cutoff dates set at 2045) for the protection of machine intelligence systems and augmented human intelligences led to a sharp decline in the incidence rate of cyberbiosecurity breach related to sonic attack vectors. It is estimated that the systematic deworming of all universal databases was completed to satisfy the 99.9% Dennett-Hull safety threshold requirements. While metaterror cells outside of confederate jurisdictions remain a hypothetical threat, the interference range is so broad that it is mathematically improbable for any vessels within legal navigation scope to encounter any residual signals...

A collaboration by Spiral Tower Ludogenics.
We are a group of independent game developers with different backgrounds and philosophies, trying our best to resist settled answers to the problems presented by videogames. We hold that one should not condemn what one already dislikes and alibi what one already likes, and that artistic practice should pose problems rather than rush to resolution. This collection of essays serves as a point of self-reflection for shared ideas encountered in our respective game development projects.

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