

# THE ARCHITECTURAL ORIGIN OF ARCADE

## THE GAME IN THE SPACE IN-BETWEEN

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### **Abstract**

Arcade machines - and by extension the whole genre of the same name - owe their title to the architectural space they originally occupied, namely the arcades forming the entrances to the commercial interiors. Benjamin refers specifically to the space of the passage or arcade (a concept of Latin origin) that led into different services such as cafés or restaurants, stores or guest-houses. This intermediate place that linked other spaces acted as the origin of the commercial galleries. As Benjamin analyses, this area constituted a space of 'legal exception'. Not being considered an 'inside' of the establishments, nor an 'outside' in the street, this space did not have such defined rules and laws as the rest. The arcades hosted activities without a specific legal framework, such as street vendors during the day or prostitution at night. When in 1930 gaming machines appeared, initially electromechanical, they were located in these places. The game was not strictly forbidden, although it went through different periods when it was, but it had, especially because of its novelty and the characteristics of gambling, an implicit negative connotation around compulsive gambling (Kent, 2001). Thus, the new gaming machines were located in that space, in the 'in-between' in the arcades, the place from which they eventually took their name. Paradoxically, this 'in-between' position of arcades is also key to the history of video games, as they constituted the first attempts to make commercial games before they moved completely to home-based gaming devices.

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**Keywords:** *Arcade, architecture, intermediate space, legal exception, video games.*

### **Introduction**

First and foremost, it is worth noting that this article is structured around the word 'arcade.' This term of Latin origin has long been used to refer to a very specific type of video game or video game genre. However, an exploration of its etymology and origin reveals nuances and perspectives that have been less thoroughly analysed. Thus, this work is, above all, a text revolving around a word; *arcade*.

### **The concept of arcade as a liminal place within video games**

When we think of the concept of arcade games within the world of video games, we quickly connect it to the first video games introduced so many years ago. Arcade refers to the primitive games that were played on machines and today triggers in the mind those types of games: from *Space Invaders* to *Q\*bert* or *Donkey Kong*. Interestingly, however, the earliest video games were created between 10 and 20 years (Donovan, 2010) before the first commercially available video games, and were initially developed without the intention of becoming commodities. Computers capable of running video games existed from post-war years, mainly the 1950s onwards (with patents for interactive television dating back to 1947); nonetheless, video games as a broad cultural production only emerged in 1972 (with *Pong* and *Magnavox*). It is important to highlight

that, prior to 1972, devices for playing video games were generally found in universities, laboratories, and other institutions with advanced technological resources. These were not commercial games; rather, most were academic experiments. The notion of a personal computer did not exist, and televisions had only recently begun to proliferate across the United States. Sufficient adoption would only be achieved in the 1970s, when playing via television could transcend mere anecdote. Consider, for instance, that in 1946 there were more than 6,000 television sets, in 1951 over 2 million, and by 1955 half of American households owned a television. In the 1970s, that percentage rose to over 90%, a context which was less pronounced in other countries. Until televisions and/or personal computers penetrated households, the creation of commercial video games was neither especially feasible nor potentially lucrative.

Transforming video games into mass consumer products thus required time for the emergence of appropriate infrastructures and concepts, such as the remote control, which in the mid-1950s allowed viewers to sit in front of the screen and control it remotely. When this transformation occurred - due to several factors, among which we can undoubtedly highlight post-war technological development focused on consumer products - it followed two simultaneous paths: domestic gaming consoles and arcades, which could be described as social gaming. Whereas television gaming was a solitary—or at best, familial— affair, arcades constituted sites for social interaction.

Within this framework, arcade video games may be defined as machines—virtual or electromechanical— whose operation required the deposit of coins for each play session. This was, therefore, their business model. Although these machines first appeared in the United States, Japan, and Europe, often independently in bars or commercial establishments, their success soon led to the creation of entire venues dedicated solely to them, which by extension also came to be known as arcades. In many countries, arcades became immensely popular from the late 1970s to the mid-1980s.

If we focus on the main feature that differentiated arcades from consoles, we must consider the idea of social gaming. In this sense, it is evident that social leisure spaces predated video games; communal play was nothing new. When the concept of play, as we now understand it, emerged in the mid-19th century, it drew on two principal types of social leisure. On the one hand, spaces for children's and youth games have been present for centuries in the streets and squares of cities, formalised especially in postwar Central Europe with projects such as Amsterdam's *Playgrounds* (van Eyck, 1962/2002). On the other hand, spaces for play were not limited to children and youth, but extended predominantly to adults as well as in amusement parks and theme parks, which gained popularity in 19th-century Britain and the United States, although their roots are much older (Silverman, 2019). These sites brought together various existing leisure arenas, such as coastal resorts (piers) and gambling houses. Both child/youth play and adult entertainment were irreversibly affected by the advent of commercial video games.

From the 1970s onwards, several authors suggest that the development of arcade galleries, concurrent with the birth of the video game industry and the expansion of virtual play space, functioned as an alternative to material space. As discussed in '*Performance, Anxiety: The Video Games Arcade and Urban Space*' (Wilson, 2002), arcades provided a setting for a generation of youths steadily losing material recreational space in cities and seeking refuge in the virtual realm. In their beginnings, the virtual space offered an alternative to the changing, eliminated, or non-

existent physical space, and arcades became a locus of social leisure for multiple years, as indicated by studies like *'The Amusement Arcade as a Social Space for Adolescents'* (Fisher, 1995). In this sense, the creator of *Pokémon* remarked, "A fishing pond would become an arcade centre" (2009), referring to the spatial changes taking place in Tokyo and its suburbs— small green spaces, playgrounds, or ponds where children played were vanishing under urban expansion (Shelton, 1999), replaced by new recreational facilities, most notably the arcade halls highlighted by Tajiri.

Furthermore, it is essential to mention engineer Nolan Bushnell, who had worked in amusement parks during his engineering studies. He understood both the business model of amusement parks and the possibility of gaming on computers and other devices. He strove to unify both concepts by creating low-cost devices with commercial potential (Kent, 2001). Bushnell invented *Pong*, the first large-scale coin-operated arcade game with circuitry and a screen, attaining such success that he founded Atari, thus promoting both domestic video games and an entire range of enormously popular arcade games that created the primitive video game market.

Consequently, numerous connections to theme parks that endure to this day lie at the origin of video games; in some sense, they served as clear reference points. Bushnell was not alone— Japanese companies such as SEGA (Service Games), an American-owned but Japanese-cultured enterprise, contributed significant advances to mechanical games in the 1960s (Pettus, 2012), striving quickly to convert them into computers and thus anticipating a similar strategy.

All this unfolded at a time when household television technology—by the late 1970s present in many homes—was considerably limited, affecting the ability to develop powerful gaming experiences. Home consoles were expensive, capable of executing only very simple games that made ingenious use of limited resources; for example, Magnavox used overlays—physically applied transparent paper backgrounds— since televisions themselves could not render well-defined shapes. Thus, while home consoles were initially beyond the reach of many families, almost anyone could afford to play arcade machines for a few coins; moreover, these machines could display much more advanced graphics, as shown by Atari's vector graphics titles for arcades, which were not feasible for raster television graphics.

This gave arcades a leading role in the early video game industry—prior to the 1983 crisis—which may be seen as a bridge or transition until computers and other home devices matured enough to be viable, as Kent (2001) argues. Although both appeared simultaneously, home and arcade gaming were complementary for a time, since the games and quality available were unequal in each setting. This also partially explains the decline of arcades: as home gaming via television and especially personal computers became established within houses and platforms proliferated, arcades lost relevance, giving way to a more individualised, screen-based leisure. Notably, the social aspect of play—in which relationships among players are central, with some playing while others observe—has not disappeared in countries like Japan, where arcades continue to thrive, rooted in Japanese cultural practices. According to Sambe (2009), the persistence of arcades in Japan is attributable, in part, to the fact that major companies own recreational facilities (NamcoLand, Taito Station, Plaza Capcom, Club Sega), continuously adapting them to shifts over time and situating them strategically in accessible, transitory city locations compatible with daily life (for example, train stations where people can play a game *en route* to work). Moreover, Japan's historical cultural preference for arcade games, together with

continuous technological innovation and experiences unattainable in the home console domain, bolster the arcades' endurance. The fact that arcade games have not lost their position in transit or waiting areas is fundamental.

Thus, it is logical to understand that arcades played a profoundly significant role in the early video game industry: they enabled low-cost, high-quality play for their historical context while leveraging existing entertainment infrastructure, thereby offering alternative communal leisure spaces, as street-based recreation declined. These machines and their playful environments orchestrated a cultural transition wherein play gradually migrated from public streets into interior spaces.

### **Research into the origin of the word 'arcade.'**

If we travel further back in time, we find a prior, significantly different usage of the term arcade. For example, from 1927 until his death in 1940, German philosopher Walter Benjamin recorded and annotated his impressions of Paris; in the 1980s, these texts were posthumously compiled as *The Arcade Project*. Benjamin referred to these evolving spaces, notably the passageway or arcade (a concept of Latin origin) preceding services such as cafés, restaurants, shops, or accommodations. This intermediate zone acted as a precursor to shopping arcades. As Benjamin observes, this area comprised a space of "legal exception" (1983). Because it was neither wholly part of the establishments nor the street, its legal norms were less clearly defined. The word arcade comes from the Latin 'arcus', meaning 'arch', and its architectural use refers to a series or set of arches supported by columns or pillars, found especially in bridges and classical buildings. Arcades played a crucial role in classical architecture. The ancient Romans perfected the use of arcades in aqueducts and public monuments such as the Colosseum and the aqueducts of Segovia, where successive rows of arches provided not only structural stability but also a striking aesthetic. In the Middle Ages, arcades became essential elements of Gothic cathedrals and cloisters, but also in Hispano-Muslim works such as the mosque in Córdoba, which is essentially a continuous arcade.

In accordance with Benjamin's texts, arcades at the time hosted activities lacking explicit legal boundaries, such as daytime street vending or night-time prostitution. Thus, when mechanical game machines appeared in 1930, they were placed in these locations. Gambling was not strictly forbidden, although it experienced cycles of prohibition (Kent, 2001), and—owing to novelty and the inherent features of games of chance—acquired a negative connotation regarding gambling addiction, as seen in Moliere's *The Gambler*.

Consequently, new game machines were positioned in this intermediate zone, just outside the interior spaces—the arcades themselves. However, owing to economic growth—especially in the UK, where technological progress improved mechanisms (still before the virtual era)—sections of these galleries began to host gaming machines exclusively. These areas came to be known in English as penny arcades: 'penny' indicating coin operation, 'arcade' referring to the gallery of arcades. These gallery sections eventually became standalone gaming halls. In Anglo-Saxon countries, the rise of amusement parks from the late 19<sup>th</sup> and early 20<sup>th</sup> centuries (Anarling, 1997) fostered amusement arcades as areas devoted exclusively to gaming machines, which began to be called arcade games—that is, they inherited the name of their original location. As game machines evolved from electromechanical to electronic circuits (microprocessors and screens),

they consequently adopted the name of their predecessors. When game machines entered markets beyond the Anglo-Saxon world, the concept was reduced to 'arcade', not always with the addition of 'game.' For instance, in all Latin languages, 'arcade' denotes game machines, and likewise in other languages where video games play a fundamental role—for example, in Japanese, where the concept of arcade (アーケード) literally also refers to the arcade space. Today, the term arcade labels an entire genre of games, meaning all those originally found in arcade machines even though in the present they are seldom played on such devices.

Thus, the historical as well as the etymological and conceptual trajectory of the word arcade reveals its position as always being in-between—at spatial and temporal, but also cultural and technological boundaries—possibly exemplifying certain postmodern dynamics. The concept of the arcade emerges as a liminal site, situated between multiple realities: interior and exterior, public and private, material and virtual, or social and individual. This threshold character—a space of "in-betweenness"—directly points to the dissolution of rigid boundaries in how we understand games as cultural components. All of this also shows a fascinating similarity with another social phenomenon, that which occurs in online video games since the early 2000s.

In this sense, building this entire argument around the concept of arcade games is intended to serve as an example of the inherently alternative nature of virtual space. A good example of this is the idea contained in the article published by ProPublica in collaboration with The Guardian and The New York Times on 9 December 2013 after the documents leaked by Edward Snowden came to light: '[...]Not limiting their activities to the earthly realm, American and British spies have infiltrated the fantasy worlds of *World of Warcraft* and *Second Life*, conducting surveillance and scooping up data in the online games played by millions of people across the globe, according to newly disclosed classified documents [...] Online games might seem innocuous, a top-secret 2008 NSA document warned, but they had the potential to be a 'target-rich communication network' allowing intelligence suspects 'a way to hide in plain sight.' Virtual games "are a space opportunity!" another 2008 NSA document declared.'

This idea revisits and reconnects with some of the concepts put forward by Benjamin, those of a less regulated, less controlled space that is more open to different activities or opportunistic spaces. In this sense, virtual space, especially in games, can be read as a kind of space of continuous transition, a virtual space that is always alternative to our material one.