Spatial Arrangements

Real-world structures must obey physical laws, withstand environmental hazards and that they must have an interior and exterior, with one influencing the other.
In games, interiors and exteriors are little more than descriptors of the involved environment artwork, allowing a more dedicated focus on player movement, narrative events and game mechanics.

With these differences in mind, game designers can learn from real world architecture and the way it influences dwelling and movement.

- Figure & Ground

The top-down division of positive and negative space to encourage dwelling and movement.

> By using figure-ground we can add a sense of flow to our levels. In a city, the sliced positive space creates negative space passageways. This negative space can be used to create dwelling spaces such as courtyards, parks and nodes. It can also be used to encourage movement along pathways, roads and other connecting routes. In games we can evolve this space to fit the unique needs of the player.
> Another notable use is the ability to imply space through the creation of negative spaces (grounds) that resemble nearby positive spaces (figures) or by placing structural elements that create a border - permeable and/or solid. This repetition of shape in both spaces holds great effect, as our brains typically prepare themselves for re-experiencing familiar patterns and love having these suspicions confirmed.

- Form & Void

A three-dimensional evolution of figure-ground, focusing on the addition or subtraction of one mass to or from another.

> In most computer software this is referred to as a "boolean operation". By taking a basic three-dimensional primitive and performing a boolean operation, we can create interesting spatial arrangements with areas such as balconies, doorways, windows and private rooms, as well as areas that serve as hidden alcoves, secret passages, sniping spots and goal areas. The repetition of boolean patterns throughout a space is a large part of creating spatial coherence.

- Arrivals

The use of contrast and other elements to anticipate and visually reward the entry into an important space.

A large part of level design is contrast, but also sight lines, pathways, dramatic lead-ups and ambiguity in the nature of where you are heading. All of these factors come together to create a dramatic, satisfying arrival.
Arrivals can usher the player forward into the next space or provide information that should be taken into account when the player is faced with a choice of where to head next. Much of an arrival comes from the preceding spatial conditions and the way in which they contrast in size, lighting, atmosphere and so on. Another notable arrival element is the theatrical point of view given to the player.

- Genius Loci

The identifying qualities or the emotional experience of a place.

Based on the Roman belief that spirits would protect a town or populated area, Genius Loci (spirit of place) serves as an important atmospheric device in gamespace. This concept influences player behavior and decision making. Should the player feel relaxed, tense or meditative during spatial puzzles, enemy encounters or helpful rest points? By manipulating spatial organisation, size, lighting and shadow we can influence player expectation and emotion.
Places that forego or use Genius Loci sparingly can serve as circulation spaces that allow the player to move between more interesting zones. They can also serve as an area to rest amongst all the atmospheric drama or build suspense before the next emotional revealing of space.

HISTORIC GAMESPACES

Many games are based off of the following classic structures, not only in spatial condition but in how the game worlds are structured: linear, branching, or interconnected.

- Labyrinth

A linear adventure that consists of twists and turns but only a single pathway.

- Maze

A spatial puzzle where the branching paths create a risk-reward system that encourages the weighing of various uncertainties.

- Rhizome

A layout where all spaces are interconnected, through a form of teleport, or even a hub area and zone shortcuts.

Spatial Size Types

This seemingly insignificant part of spatial design actually has a large influence on how the player perceives and acts within your gamespace. The sizing of your spaces and the transitions used in between cause spatial drama that leads to emotional investment by the player.

It is worth noting that it is not only physical boundaries that define spatial size, but also placement of enemies and other dynamic objects.

- Narrow Space

Confining space, usually not much wider than the player avatar.

Narrow space is used to create dramatic or skill-based scenarios, sometimes as part of a fast-paced environment - enhancing the sense of tension. This tension is established through spatial scarcity, where space is so scarce that it becomes a valuable resource.
We can also use narrow spaces to create bottlenecks, ideal for ambushes and traps, as well as "thread-the-needle" movement moments. In stealth games, these spaces can offer protection for the player, at the cost of reduced visibility and forfeit of movement options.

- Intimate Space

Comfortable space that supports player size, movement, and abilities (in a relative fashion).

Intimate space serves a variety of uses and defines a large amount of gamespaces. It can give the player space to experiment with their abilities on friendly terms, without the presence of significant risk. In much the same way, it can complement player abilities in order to grant player advantage.
This spatial type can also change the struggle for space into a struggle for strategic position, and having an unfolding contrast between these two qualities promotes foresight and planning.

- Prospect Space

Large, open space that hinders player abilities and leaves the player vulnerable to attack.

This space resembles areas in which mankind traditionally traversed to find food, water, and other necessities. Players find themselves unable to use their avatars abilities fluently, and must instead move strategically or even directly tackle challenges.
Prospect space, like narrow space, instills fear and panic in the player - however this is done through agoraphobia (the fear of open spaces) rather than claustrophobia. We can enhance this feeling of vulnerability through various atmospheric effects that make the genius loci of a space.

LAYOUT STRUCTURE

Through the careful planning of our overall gamespace, we can create legible worlds that aid the formation of a player's mental map.

- Landmarks

Guidepost elements, memorable and recognisable from up close and a distance.

> These structures, either manmade or natural, can act as a focal point that draws the player closer, or as instruments of orientation for players with their own directional agenda. It is also possible to treat landmarks as milestones, giving a sense of game progression without UI indication.

- Paths

Channels for travel that connect significant gamespaces.

> Paths can pose their own challenges, but they are typically intimate spaces used to usher the player from one location to the next - with few frills. In open world gamespaces these paths can take the form of dirt walkways, roads, signposts, or rivers... however this increases the importance of landmarks - especially when the player attempts to form their own shortcuts!

- Nodes

Areas of intersecting pathways that have potential for engaging the player.

> Designers can use these points for navigational purposes, much like street directions, or as areas of gathering and interaction. They can be areas where landmarks reside or even decision points where the player must strategise their next move - decisions which can have narrative or moral implications. Regardless of their use, nodes serve as breathing space in a flurry of pathways.

- Edges

Boundaries that transition one zone (or other genius loci) into another.

> These environment art transitions can be as gradual as a blur in vegetation or as blunt as a castle wall, and this speed can itself serve as a narrative device. Quick transitions may mark a defined border or the occurrence of an catastrophic event, whereas a softer transition can build tension and tell a story with sprinkled plot foreshadowing & symbolism.

- Districts

Environment zones that hold identifying character.

> Beyond a simple change in style, these districts offer a change in gameplay: characters, enemies, events or mini-games. Without these unique gamespaces, worlds can become bland and repetitive. Separation makes worlds believable.