Folded Space: How Computer Games Rework Our Ideas of the Maze

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Mediaeval, Modern, Digital

"Unlike a Platonic idea, the kind of idea I'm talking about is not "true", universal, or immutable; like other human ideas, the idea of the labyrinth is subject to temporal change, the most marked change occurring in post mediaeval times, when the presence of false turnings and repeated choice become the labyrinths dominant characteristic."[1]

In one of the essential texts that discuss the cultural significance of the maze or labyrinth (what we have called the 'folded path'), Penelope Doob argues that the 'idea' of the maze changes significantly as the Mediaeval world becomes the modern world. By 'idea' she means both the materiality and sensual experience of a maze object, and the broader cultural resonances of the maze. The way, for example, the maze metaphor permeates and shapes cultural thought, interpreting and structuring the world and experiences of it. For Doob the shift of the Renaissance, from Mediaeval ways of thinking and doing to Modern ways of thinking and doing, is evidenced clearly in a shift in the idea of the maze. In a similar way we wish to argue here that the change from Modern to post-Modern, from pre-Digital to Digital, from a manufacturing to a knowledge economy (however it is you wish to label the recent and current significant changes of an increasingly globalised culture), is also marked, and in part mediated, by a shift in the 'idea' of the maze that is both characterised by and in some part mediated by the ways in which interactive texts both employ and deploy the metaphors of mazes.

Where Doob looks to the artistic products of Mediaeval European culture, to the written, painted, sculpted, gardened and other texts of a broadly popular culture, we look to similar texts in the contemporary world, to computer games, to interactive imagined worlds. We will not labour a claim that the printed book, particular garden layouts, perspective paintings, etc were the exciting new technologies of the Renaissance and so may equate with the arts of digital displays and interactive decision technologies. We will not labour that, but it will float through much of what we say.

In our terms, Doobs 'idea' of a maze is a set of signs. Physically mazes are folded paths, highly organised, highly constructed, highly artificial configurations of form and substance — in a kind of reverse Creationism, no maze could arrive by accident, they announce that they are man-made and so threaded through with significance, even if their meanings escape us.

The worldly-maze relies, often, on visual and spatial confusions of many kinds. Low affordance surfaces, space and configuration, vertiginous twists and turns, etc. Although the maze puzzles of computer games adopt and exploit many of these strategies there remains a significant difference between the *pathways to* in the virtual and the *pathways of* in the embodied world. In part this is because worldly mazes suffer entropic change — inadvertent, accidental and co-incidental events leave their marks, whereas the game-maze is invoked identically on each of its instances. Worldly mazes are thinly spread and rarely experienced. Geography and occasional visit contribute to their ritual power. However, the game-mazes are near ubiquitous, readily available, easily accessed in their daily play across the planet. This familiarity dilutes the potential for ritual, reframes our experience of exploration. Where the age-old physical maze addresses many cultural activities and functions from ritual to play, from threat to entertainment, the computer game adopts the traits of the maze as a puzzle, seeking to contradictorily both engage the player and delay the action and its rewards.

Game Mazes, Space, Change

In general, two distinct 'ideas', fold paths, create mazes, in videogames:
- by having multiple fixed paths restricting movement, yet making the space appear larger.
- by being generative or emergent, allowing for differentiation with each play.

'Pac-Man'[2] is a key example of how fixed and generative mazes exist in one game. The walls/boundaries of 'Pac-Man' are fixed. The player cannot change them, they act as a map, outlining on screen where the player can and cannot go. Within the fixed maze walls, the pills reinforce the structure of the path in the game, showing the player the routes they can follow by collecting them. Collecting the pills change the movement along the bounded paths, creating further maze-like routes, ones that are different from the mapped out maze boundaries. These pills add another dimension to the game. It is these that are the emergent maze of the game, within the fixed, bounded walls. The pills can be collected in any order, collecting and disappearing whilst the player is battling the arrival of the ghosts. The pills, ghosts and 'power pills' work together to form maze structured paths, creating dead-ends, changing the direction of 'Pac-Man', and changing the end point of the goal of each level.

As technologies progressed, and three-dimensional games started to be developed, maze designs could again be used to make explorable areas appear larger to the player. The use of corridors offering maze-like paths, through early 3D games such as "Doom',[3] helped to confuse and lose the player in their environment. Rollings and Adams define a maze in computer game design as, *"... an area where every place looks alike, or mostly alike, and the player has to discover how the places are related to get out, usually by wandering around"*.[4]

This act of using the maze as a way of delaying the action also allows for making virtual spaces appear larger than the technology allows, through prolonging the players experience in the act of exploring and figuring out the puzzle. Concepts of space are diluted through identical texture mapping to make relatively small spaces appear larger. This can confuse the player making them spend more time in one particular place although they are constantly moving around.

Conclusion

Our discussions about mazes, labyrinths, or 'folded paths', have been wide reaching. In order to present those thoughts in even the most cursory way, we set out them out as in Table 1. We have no space here to explicate the table, but leave it, a little maze like, perhaps, for you to thread a path of some kind through it. You are asked to forgive us our generalisations; the broad sweeps of thoughts put down so simply.

Table 1: Characteristics of mazes in mediaeval, modern and post-modern contexts

Mediaeval	Modern	Post-Modern, Digital, Information Economy
The Troy (turf cut)	The hedge (gardened)	The Game and other interactive media
Unicursal	Multicursal, the bivium of decision	Rhizomaticursal - polyvial
Pathways of...	Pathways between...	Pathways to...
Ontological - about being on a path that has only one end	Existential - about choosing the path and bearing the consequences of those decisions	... the consequences of represented paths
Durational, endurance Central, pr peripheral, an inevitable destination, possibly reversed, or inversed as a way out	Spatial, Coals, solutions, knowing the secret	Puzzle, Rewards, power-ups, on-the-way collecting
Lost within the turning of the single path	Lost by the confusion of decision making	Lost by many means, tmetic anxieties, plurality
Open to the inward view of others, able to view others	Occluded views in both directions... hidden secrecies	Virtual views and plural viewing... inhabited by avatars
Public	Select Group	Private
The commons	The garden	Machine space in a private room
Mediaeval mind set	Modern mind set	Post modern mind set
Metaphors for the universe	Metaphors for life	metaphors for texts
Geo-spatial, symbolic and ritual values traded through placedness	Geo-spatial, status trade through ownership of space and resources	Post-geographies - virtualised spatiality, a social rather than a ritual trade of values
Rare, infrequent, travel to experience. Pilgrimage	Rare, pleasure garden spaces, partly 'domestic', partyle touristic	Everyday (with the privilege of technology access). Ubiquitous yet virtual.

1   Doob, P. 1990. *The Idea of the Labyrinth from Classical Antiquity through the Middle Ages*. Ithaca: Cornell University Press, p. 2.

2   *Pac-Man.* 1980. Namco.

3   *Doom.* 1993. id Software. GT Interactive.

4   Rollings, A. and E. Adams. 2003. *Andrew Rollings and Ernest Adams on Game Design*. Indiana: New Riders, p. 231.