Puzzles

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Riddles are a very elemental form of puzzle. Once you find an answer you’re done unless you can find a different one.

Scott Kim’s take on puzzles:

“An activity that’s fun and has **a** right answer.”

First puzzle: Unfold it and it creates an L easily. But Scott made a caveat that it wasn’t that. It was an F.

It’s not immediately obvious, and you have a moment of cleverness.

What is the process of puzzle design?

Something that could happen when you design an activity with at least one solution in mind.

When you have a solution then explore what happens to reach the solution.

Distinction of puzzles that show up as an activity and games that are entirely about a single type of puzzle.

Very grey area!

**Puzzles in games** vs. **puzzle games**

Where do puzzles come from?

They come with doodling with the world around us with a lot of time on our hands.

Classical labyrinth aka 7-circuit labyrinth shows up from around 2500 BCE all over the globe.

Why make this? Is it the next step from a circle or spiral?

In the church it is a practice of meditation.

Possible early form of “grinding”.   
World’s earliest walking “simulators”.

Westworld! SPOILERS! WHAT IS THE MAZE?!?!?!

Legend of Theseus and the Minotaur. It is not a classical labyrinth because it is a maze with dead ends.

**Labyrinth:**

One path, no choice

**Maze:**

Branching choices, dead ends

Haxxorz:

Increase player information

**Doodling with letters**

Word Square:



Sator Square found in ruins of Pompeii

Abracadabra was also a triangular type of a word square

In the 1800s this has been relegated to children’s puzzles with more difficult ones arising over the years.

Eventually evolved into the “crossword puzzle”

**Crosswords**

**1800**

**Unknown**

**Pen & Paper**

**United Kingdom**

“…People are committing a sinful waste in the utterly futile finding of words the letters of which will fit into a prearranged pattern, more of less complex. This is not a game at all, and it hardly can be called a sport… [they] get nothing out of it except a primitive form of mental exercise, and success or failure in any given attempt is equally irrelevant to mental development.” 1924 New York Times

In 1942 Margaret Farrar becomes the first NYT crossword editor

Crossword clues: Quick and cryptic

Fill- in: NYU Game Center’s GAMES 101 (5)

Before & After: Charles PRATT Fall (5)

Puns: Grateful? (5) Ashes

Abbreviation: Univ. teacher (4) (Prof)

roman numerals: xii plus vii (3) (xix)

homophone: a few, we hear, add up (3) (sum)

concatenation: to bring worker in country may prove significant (9) (important)

backwards: nyu’s pratt retreating (7) selrahc

wordplay: bigotry aside, i’d keep him (9) apartheid

anagrams: Ned T’s seal cooked is rather bland (9) needssalt

Many solutions.

WHY?

* One of the most popular, enduring widespread forms of puzzle and word-play, with many regional variants
* Revived disused words like acute, ooze, smudge, omit, and sever – we might not be using them today without crosswords!
* Most prevalent context for riddles today
* Strongly authored form; you feel the presence of the puzzle designer

Magic number squares appear in the late 1800s. Sudoku shows up in 1979 as “Number Place”

Japan hand crafted their Sudoku puzzles, someone figured out how to make it with code. Difference between hand-crafted puzzles and generated ones. Is there a significant difference?

**TETRIS**

1984 CE

Alexey Pajitnov

Electronika 60

Soviet Union

Started with Pentominoes and Tetrominoes

How to make it in a computer? First was a simulation. But it wasn’t fun. Then he added gravity.

Spectrum Holobite was the first group to make a published version. It was mainly pirated since the Soviet Gov’t didn’t really know how to get rights. First group to make official version was Nintendo. It was the “killer app” of Game Boy.

Tetris was found to reduce traumatic flashbacks for people with PTSD

WHY?

* Automatically generates endless “puzzle situations” no final win state!
* Highly intuitive, fast to replay, simple controls
* Ported more than any game? Popularized handheld gaming
* Cautionary tale about IP, cloning, royalties
* Meditative, even therapeutic

The idea of generating a system that creates puzzles FOR you is not from Tetris.

**Doodling with Chance**

A random deal: Procedural generation

Games of patience:

Solitaire. Little tiny decks of cards made so that you could play ANYWHERE.

Again stigmatized as something to while away your time. No redeeming value.

**Microsoft Solitaire**

1990

Wes Cherry and Susan Kare

PC

USA

Most played game EVER. Was created to help people get better at using a mouse. It is a skeuomorphic experience to help people translate the experience.

Game with Win 3.0

WHY

“most used software application in the world” by some accounts, due to shipping with Win 3.0

helped familiarize the personal computer

classic “multi-tasking at work” game. Huge threat to office productivity? Not really.

Roughly half the games are winnable!

**LEMMINGS**

**1991**

**Dave jones w DMA design**

Created a situation of autonomous NPCs that have their own behavior that you can influence.

It’s up to you to guide the lemmings to the “exit”

Very little visuals but a lot of emotional resonance

Had a level editor that let them make levels with no code. So non-programmers made different levels.

Doodling with pixels… making cartoon simulations

Similar games:  
Artillery (Apple 2, 1980)

Worms, Amiga 1995

World of Goo

(PC, wii, etc. 2008)

Angry Birds (iOS etc, 2009)

WHY?

Early puzzle game with spatial level design; prior puzzle-platform games were more action-oriented with fleeing from enemies (Lode Runner, Door Door)

Starring iconic, autonomous characters, only controlled indirectly

Intuitively playable due to simple 2D physics

Tetris

Continuous lines of squares, automatically removed

Chain Shot! (Kuniaki Moribe, Fujitsu FM-y, 1985)

Contiguous areas of same color, removed by player

Puzzle Bobble

Taito

1994

Japan

Game where you connect 3-4 like bubbles to make them pop/drop

Post to Bubble Bobble universe

If you remove 4 in head to head mode, it interferes with your opponent’s puzzle

WHY?

* Evolution of time-pressure matching games
* Builds on a known franchise of characters
* Introduces two-player competition into puzzle games that’s not just “side by side”
* Another frequently cloned game (Snood, Bubble Shooter, Bubble Witch)

Bejeweled (series)

2001

PopCap Games

PC

USA

Randomly generated puzzles that can be swapped to make a match

Bejeweled puzzle mode made by Scott Kim

Bejeweled had a big affect on the PC market

Kicked off the market of games being sold online!

Can buy a game digitally!??!

Because digital games were largely controlled by publishers, prices went down and down and then the App Store cemented the low price.

WHY?

Next wildly successful evolution of the tile-match games

Can be played with or without time pressure

Downloadable model heralds the rise of the “casual game” market, expands videogame audience hugely

Frequently copied/ ongoing influence (candy crush)

Braid is a game that feels like a platformer game like Mario, but you realize that it becomes more like a puzzle game because of its time-mechanic.

John Blow wanted to take a single mechanic and explore it completely.

He commented in “Designing to reveal the nature of the universe” that they were trying to create a universe that ran on rules and then guiding players to understanding those rules.

**THE WITNESS**

**2016**

**John Blow and Thekla**

**PC/PS3/XBOX1**

**USA**

Like other puzzle games, it takes place on a mysterious island.

All puzzles in The Witness use the same interface

Basic puzzles are mazes

Some require you to pass through nodes

Symmetrical maze walk

Two color division of a space

Shape Enclosing  
Paired Division

Puzzles that require looking at the environment

Tracing the environment

Light

Shadow

Perspective

Sound

Color filter

3D to 2D

Keygames

Crosswords

Tetris

Solitaire

Lemmings  
Puzzle Bobble

Bejeweled The Witness

Puzzles have one or more solutions in mind

Puzzles can be viewed as a form of practice by both designers and players

Patterns found in nature, mathematics and the human mind, turned towards play

Puzzles appear inside many kinds of games

Puzzle players can submerge their consciousness in a game system as it becomes second nature

A very widespread, pervasive form of culture