

Some Hedge Mazes

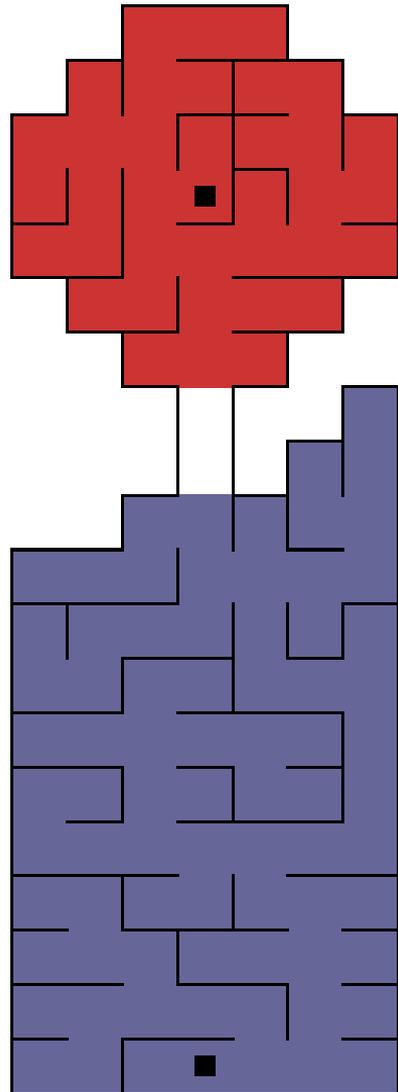
Ian Stark

Laboratory for Foundations of Computer Science

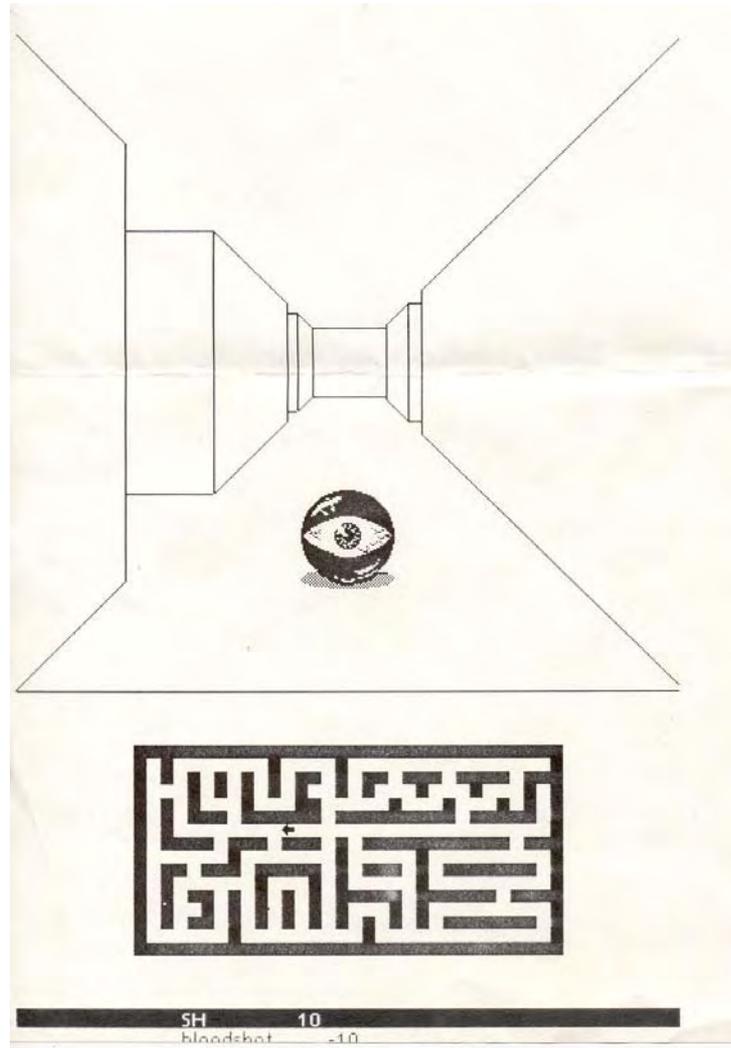
24 March 2009



A Small Maze

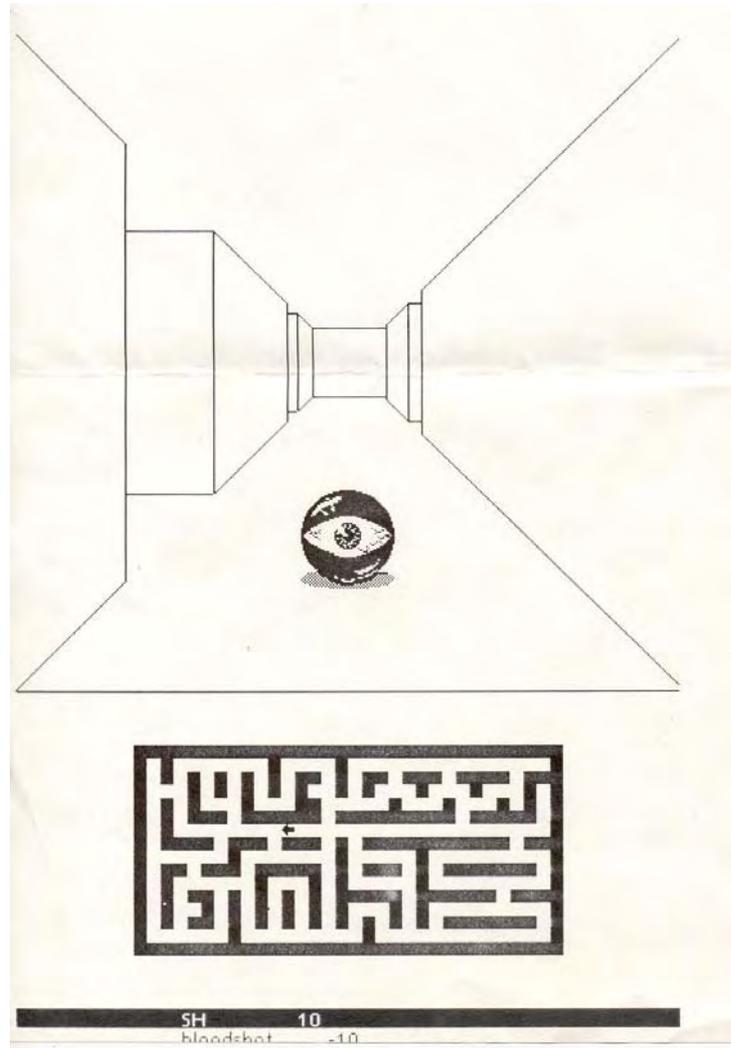


Mazes on Computers

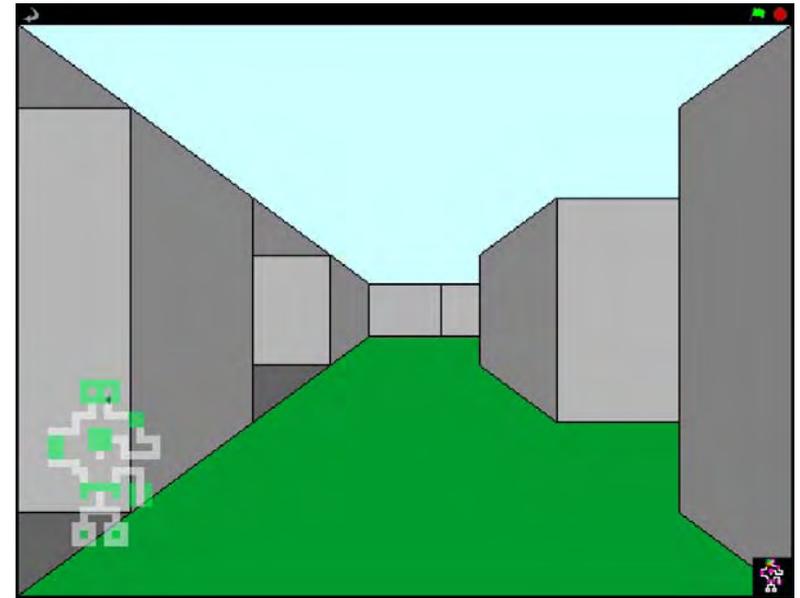


Maze War, c.1974

Mazes on Computers



Maze War, c.1974



Scratch, c.2008

Maze Robots



UK Micromouse Contest 2007

Other Mazes in Computer Games



Other Mazes in Computer Games

You are in a maze of twisty little passages, all alike

—

Hampton Court Palace



Hampton Court Maze



Egeskov Slot, Fyn, Denmark



Mazes at Egeskov



Maze at Egeskov



Maze Exit

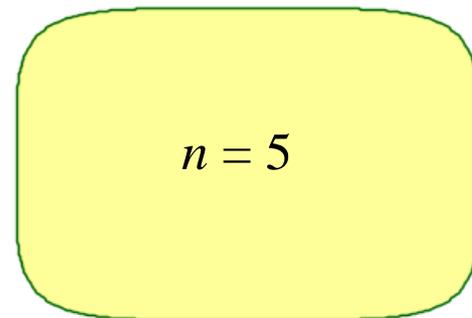
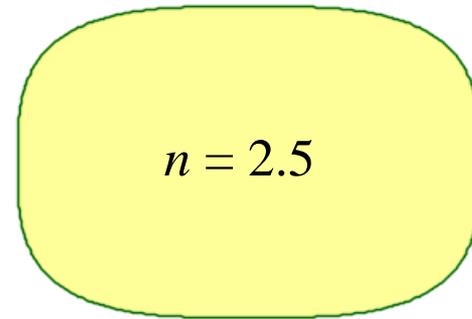
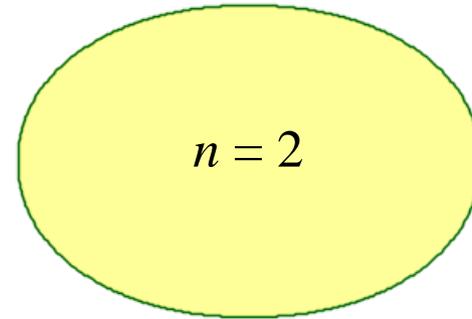


Piet Hein



Superellipses

$$\left| \frac{x}{a} \right|^n + \left| \frac{y}{b} \right|^n = 1$$



Superelliptical Cityscape



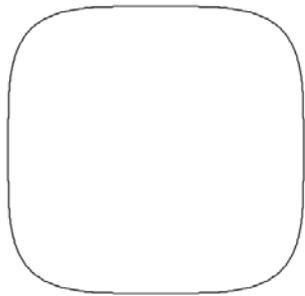
Sergel's Torv, Stockholm, Sweden

Superegg

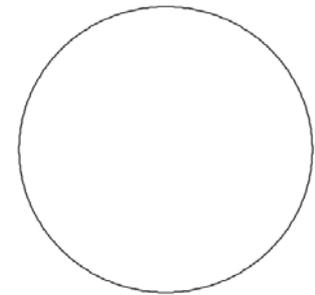


The Egg (2003) in Marselis Palace, Aarhus, Denmark

Uses for a Supercircle



resembles but is legally distinct from



Uses for a Supercircle



resembles but is legally distinct from



Cawdor Castle



Cawdor Castle Gardens



Cawdor Castle Gardens



Bad News (1/2)



Bad News (2/2)



A long walk in a small place

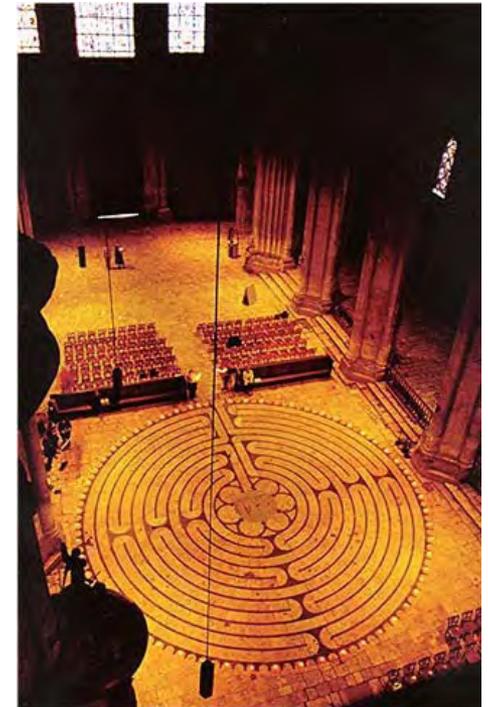
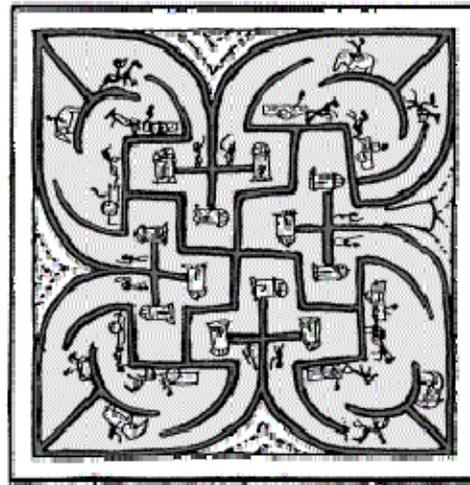
Roman Mosaic, Conimbriga, Portugal

This is a labyrinth



It is not a maze

Labyrinths



All these are *unicursal*, having a single route and no branching

Labyrinths vs. Mazes

Labyrinths

- Single route
- Outcome predetermined, fixed
- Follow the paths as directed
- Obedience, submission
- Safety, predictability, certainty
- Since antiquity

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Mazes

- Many possible routes
- Outcome depends on route chosen
- Make choices and take responsibility
- Autonomy, reason, intellect
- Risk, adventure, discovery, invention, the unexpected
- Since C17

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Conjecture Hedge mazes are, in fact, the light recreational garden wing of the Enlightenment.

“Freedom to make use of one's reason in all matters”
Kant: *What is Enlightenment?*

Traquair



Scotland's oldest inhabited house (1107)

Appealing Signage



Maze





Confident Mazewalker



Traquair Easter Egg Hunt

Sunday 12 April 2009

12–5pm

Over 5,000 mini eggs will be hidden in the Maze.
Only for those under 10, start at 1.30pm.

Egg hunts in the old walled garden at 1.00pm
and 4.00pm for those under 5.

Also scavenger hunt, treasure hunt, etc.

Other Mazes



Tatton Hall, Cheshire



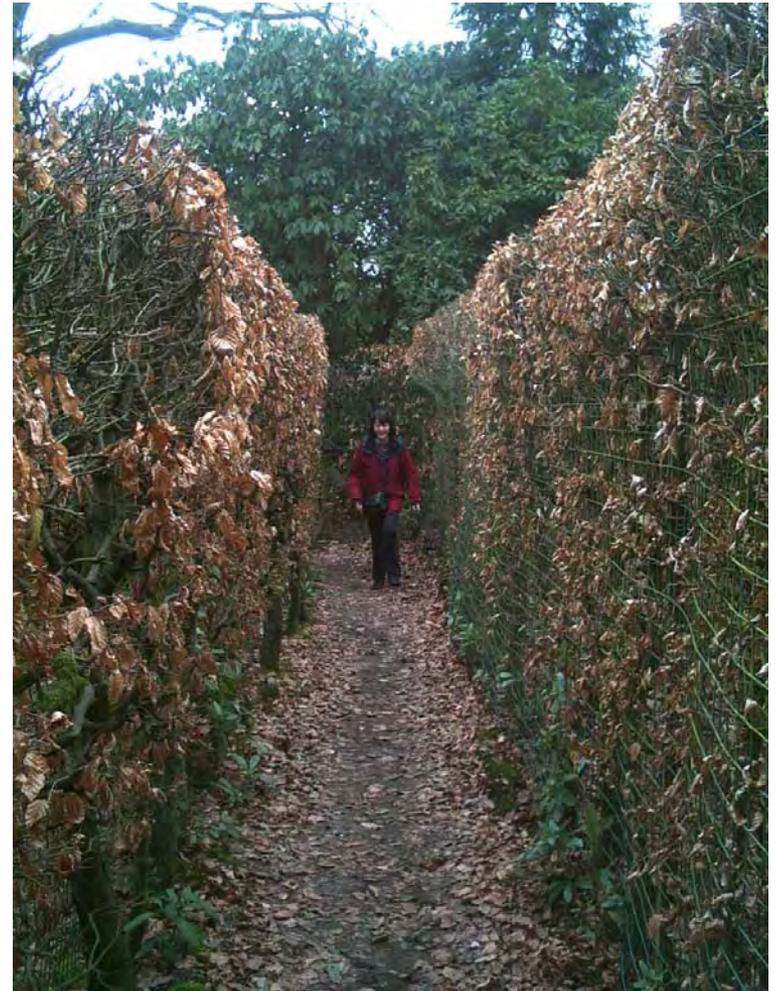
Tropical house



Japanese garden



A souvenir of Hampton Court



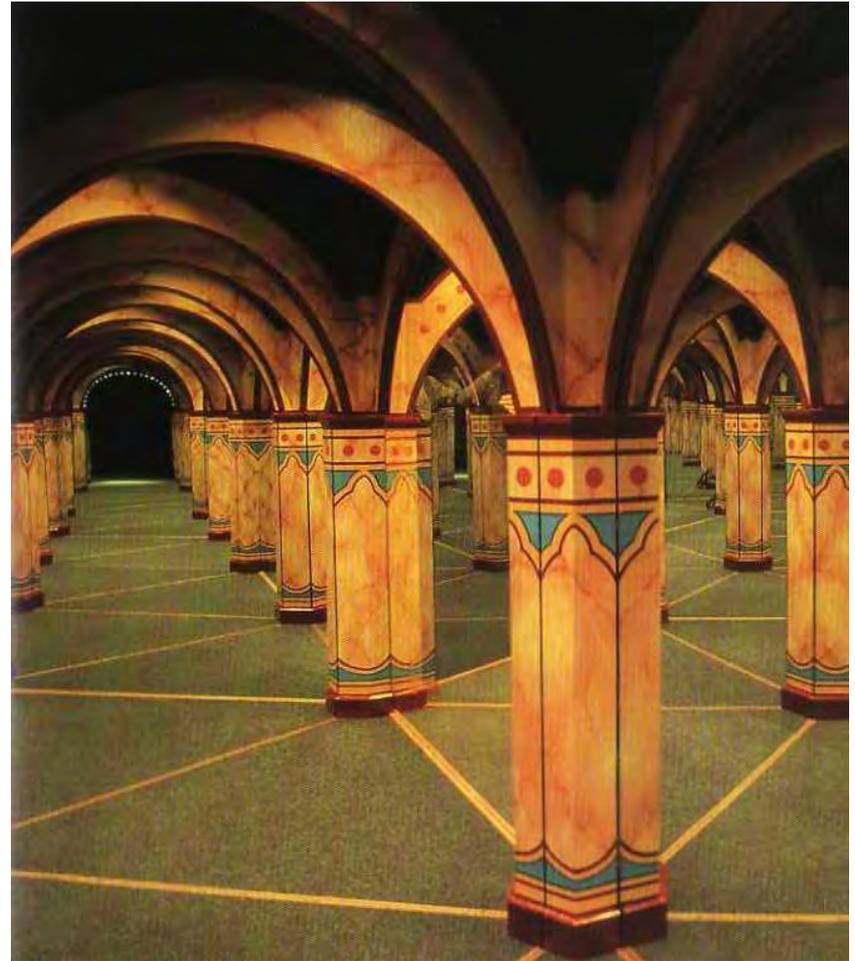


Parco di Pinocchio, Collodi, Italy

Edinburgh



Darwin Maze
Edinburgh Zoo
(demolished)



Mirror Maze
Edinburgh Dungeon

Hedge Mazes in Theme Parks



Alice in Wonderland
Disneyland Paris



Tudor Maze
Legoland Windsor



One-Way Maze



Windsor Railway Station



Approaching Points





Scone Palace, Perthshire

The Murray Star Maze



The End



Some References

Alex Bogomolny. **Mazes**. In *Cut The Knot!* Mathematical Association of America, October 2003. <http://www.maa.org/editorial/knot/mazes.html>

Adrian Fisher. **The Amazing Book of Mazes**. Thames & Hudson, 2006.

Martin Gardner. **Mazes**. In *More Mathematical Puzzles and Diversions*, Penguin, 1966.

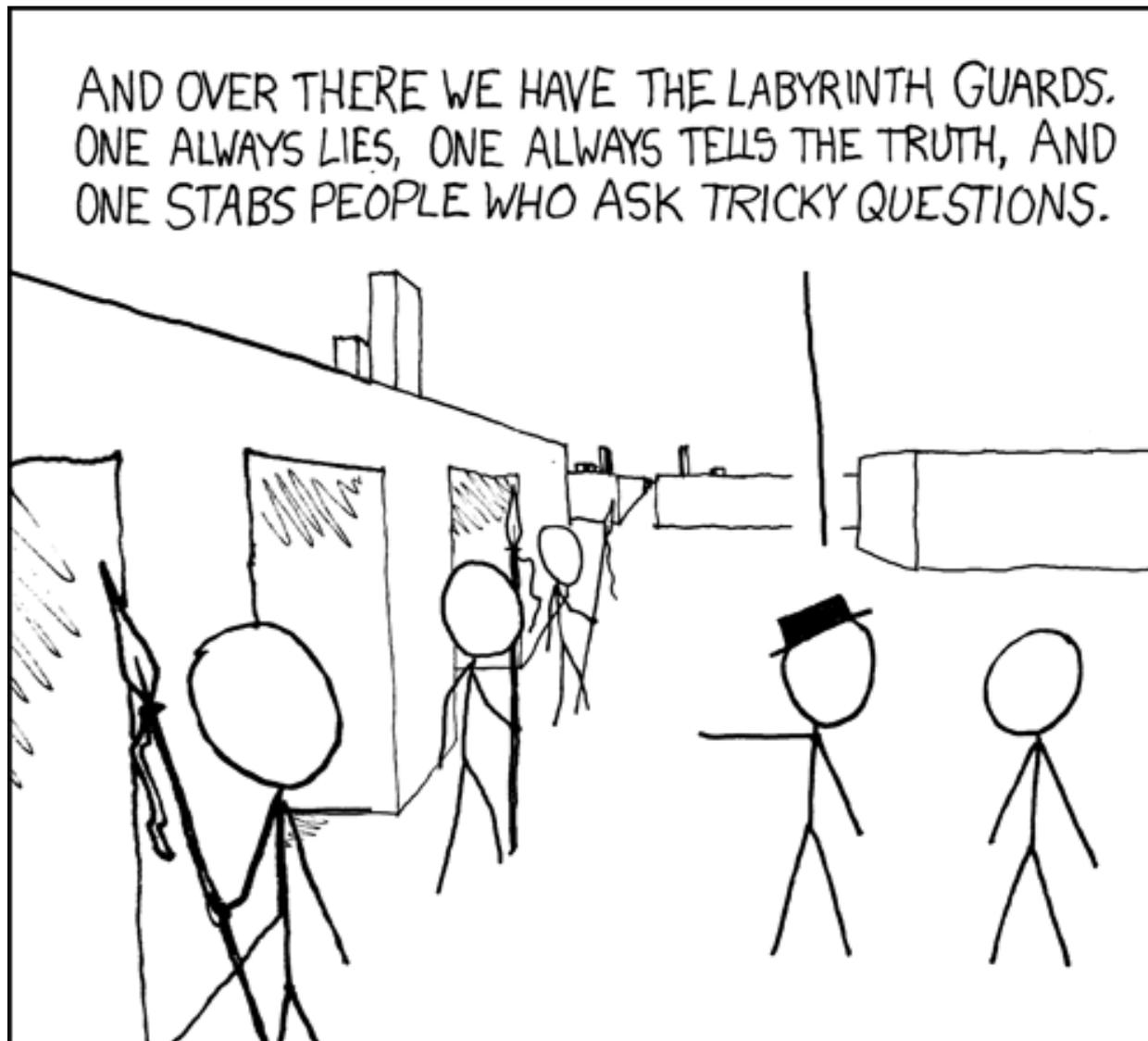
— — . **The Soma Cube**. *Ibid*.

— — . **Piet Hein's Superellipse**. In *Mathematical Carnival*. Pelican, 1978.

UK Micromouse contest. Technology Innovation Centre, Birmingham City University. <http://www.tic.ac.uk/micromouse/>

Jorge Luis Borges. **The Garden of Forking Paths**. In *Fictions*. Penguin Classics, 2000.

Tricky Questions



<http://xkcd.com/246/>