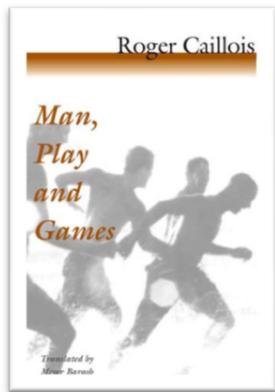
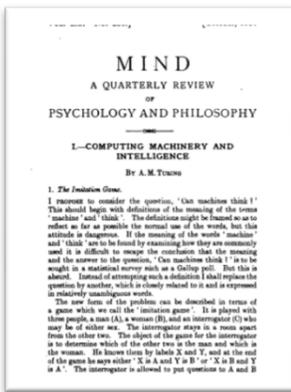


## How the game apparatus (en)lighten the intelligence definition problem: Turing gesture and Caillois framework at work



Roger Caillois' book: *Man, Play and Games* (1967)



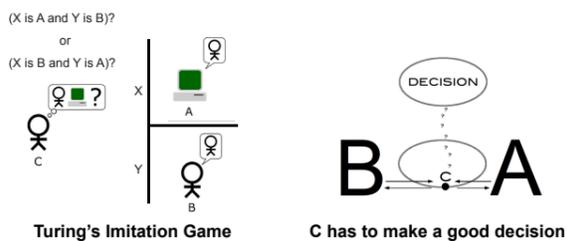
Alan Turing' paper: *Computing Machinery and Intelligence* (1950)

Define intelligence has proved an impossible problem to settle when approached in a frontal manner. In this regard, Alan Turing had a non-trivial epistemic gesture: instead of trying to answer directly his question "can machines think?", he designed the Imitation Game, opening a wit way to approaching what "thinking" is by using a game apparatus.

Opportunely, Roger Caillois' book "Man, Play and Games" provides a rich framework to explore and extend Turing's gesture: the Paidia versus Ludus two opposite tendencies, and the Separate, Regulated, Uncertain, Unproductive, Fictitious and Free six canonical characteristics.

Using Caillois' framework, we systematically raise and examine questions from his canonical game qualities to reassess Turing's Imitation Game and try to differently tighten the intelligence definition.

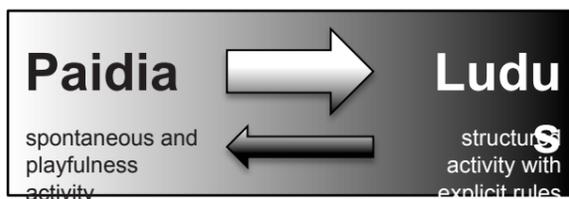
### Turing's Shift Toward Game



	<i>A is a Human</i>	<i>A is a Computing Machinery</i>
<i>A and B face C</i>	Archetypical game	Turing Imitation game
<i>A or B faces C</i>	Viva voce	Turing Test

The different configurations of the Game

### Caillois' Ludus & Paidia



The original Turing Imitation Game and Test is a typical ludus-oriented game (structured activity with explicit rules) first designed for only happy few users (let's mention that Joseph Weizenbaum tested the ELIZA program in some MIT lab in 1966). According to Turing, Computing Machineries have to train their skills, pushing the Imitation game towards ludus rather than paidia

	Caillois' Canonical Game Qualities	Turing's Imitation Game
<b>Separate</b>	Within space and time constraints, fixed in advance	Yes. Direct perception is not possible for C, either visual, tactile or acoustic (space); response delay artificially temporised (time); Computing Machinery A is able to simulate some mistakes (truth)
<b>Regulated</b>	Submitted to some particular conventions that suspend ordinary laws	Partly. Several practical rules are missing: initialization (A or B starts?); alternance rule (are successive questions allowed?); dialogue stop (what are the stop conditions?)
<b>Uncertain</b>	The process cannot be fully predictable, some inventions and initiatives being required by players	Only because questions looking for a complex answer or a sophisticated demonstration are forbidden (such as "What do you think of Picasso?" or "Will this machine ever answer 'Yes'?").
<b>Unproductive</b>	Playing cannot create any goods or wealth	Yes for one game, no when working on the game: Turing prospects towards what he calls Learning Machine, <i>i.e.</i> Computing Machineries have to train their skills.
<b>Fictitious</b>	Players can easily access to the unreality feature of the game, compared with current life	Too much. In his paper, Turing admitted that Computing Machineries will have to wait for being able to attend an Imitation game managed by an educated interrogator.
<b>Free</b>	Playing is not obligatory	Yes but the Turing Imitation game is clearly not funny enough: what could really encourage the interrogator to participate? How to turn Imitation games into real entertainments for real average players?