Games: a Human History [C1]

Il gioco è una componente essenziale della natura umana. Oliver Roeder, esperto di teoria dei giochi, analizza il funzionamento della nostra mente al momento di prendere decisioni attraverso la storia di sette giochi molto popolari, e ci spiega perché giocare sia così importante.

Playing games is as old as humanity. **Throughout** history, people have used games to compete with and **relate** to each other in one way or another. **Late** Canadian philosopher Bernard Suits defined it as "the voluntary attempt to **overcome** unnecessary obstacles." However, if the obstacles are unnecessary, then why would we want to **overcome** them? Author Oliver Roeder studied artificial intelligence at Harvard University and holds degrees in economics and game theory. In his recent book Seven Games: A Human History, he **delves into** the background of some of the world's most **enduring** games — **checkers,** chess, Go, backgammon, Scrabble, poker and bridge. To find out more, Speak Up contacted Roeder. We began by asking him why we play games. **Oliver Roeder (American accent): **I think the obvious reason is that games are fun, right? Games are pleasurable ways to spend time and as humans, we often have time to kill. We all had a lot of time to kill a few years ago, **in the height** of the pandemic, and **indeed** we

saw more games being played at the height of the pandemic than probably at any other moment in human history, because we like to spend time this way and they are a very great excuse **to come together** with our **fellow human**. I think there are more subtle and interesting reasons, too, one of which is that games are a form of practice. Games crystallise small elements of the real world. For example, chess crystallises planning ahead or poker crystallises **hidden** information and **deception** or backgammon a kind of **account** dealing with the **randomness** of the world. So games capture these elements and, by playing these games, we can practise these little parts of the world and take the lessons we learn back with us to the real world.

A SENSE OF AGENCY

Games bring us together, bring us pleasure and teach us life lessons, but Roeder explains that games also give us a sense of agency. **Oliver Roeder:** Games are the art form that captures human agency. Games put us in these positions that we might not have access to in our real lives. For example, there are many, many games that put me in the role of, **say...** a general leading an army into battle. **Whereas** **no one in their right mind** is going to put me in charge of an army in the real world, in a game, I'm able to live some version of that life. So games can transport us and give us access to modes of agency that we wouldn't **otherwise** have. We **crave** **decision-making** and we **crave** having an impact and, if that's **denied** **elsewhere,** games will always be available to provide an **outlet** for that desire.

DAYS OF PLAY

In a world with an increasing amount of **leisure time,** games **take on** greater importance. Bernard Suits went so far as to predict a utopian future, where all of our material **needs are met** by machines and where we play games all day. **Oliver Roeder:** Suits argues that this future utopia is coming and the way that we best prepare for that is to **foster** institutions that support game-playing and to basically get ready by **setting up** the structure

where we can all play games in the future. Is this a little fantastical? Yes, of course it is, but I do agree that games play this very central role. I don't **foresee** utopia in the near future, unfortunately, but I think **the argument still holds** that **foster**ing games and sports and these sort of institutions is incredibly important for humanity.

ARTIFICIAL INTELLIGENCE

Games have driven the development of artificial intelligence. Programmers use a number of games to teach computers to learn and improve their basic **coding**. **Oliver Roeder:** If games are practice for humans, games have also been practice for computers. Like, the earliest computers we had, seventy-eighty years ago, played chess and checkers. That's kind of how their creators tested them. Computers and humans quote-unquote 'think' and play games in very, very different ways. The kind of **starkest** examples of this are the chess machines in the 90s, most famously Deep Blue, which beat Garry Kasparov, at the time the world chess champion, in 1997. And Deep Blue was good because it was extremely fast and it could search millions and millions of chess positions every second and approach chess as like this brute force optimisation problem.

IMITATING THE BRAIN

Recent AI projects, like AlphaGo by Google company DeepMind, work in a different way, using neural networks that are modelled after the human brain. AlphaGo conquered Go in 2016, but why do developers make machines play games **in the first place**? **Oliver Roeder:** Because they thought machines would go on to do things in the real world after they had conquered chess. And, for a long time, that wasn't true. All Deep Blue ever did in its whole entire life was play chess. But these more modern neural networks, so-called deep learning techniques, have showed more promise off the Go board. Look at some of the Deep Mind projects like **protein folding**, which is important for drug discovery and that kind of thing.

MACHINE LEARNING

Artificial intelligence is particularly good at solved games, where the best moves are a mathematical certainty. **Oliver Roeder:** That's true of **checkers,** that's true of **tic-tac-toe**, that's true of a game called Connect Four, it's true of a few other games. It is not true about chess, **even though** computers are much, much, much stronger than humans at chess these days. Chess is not solved. Just because the computer knows the right answer doesn't mean it's not interesting for humans **to strive** at the game. Even if they're playing suboptimally, that's fine, it's still fun. It can still be interesting and the concept of 'striving play', the play of the beginner at a game is still really important and can be really enjoyable.

HUMAN LEARNING

With games of chance, like poker and backgammon, humans will always have a chance to win against a machine. What's more, they can use AI to learn how to play more efficiently **to boost** their chances. **Oliver Roeder:** Every time AI comes in and conquers a new game — whether it's **checkers,** chess, Go, poker — the elite players go through these stages of **grief**. There's **anger** and **denial** and ultimately acceptance. And, ultimately, the elite players of these games realise, "Well, this computer is **really damn good**, we should try to learn something from it." So, basically, the way that top players in these games use AI now is to train and to learn.

INACCESSIBLE WAYS

Neural network AIs are self-learning programmes, which makes them very good but often beyond human understanding. **Oliver Roeder:** The **issue** with a lot of these neural network techniques is, we can see them perform very, very well, but we don't know exactly how. It's what's often called a 'black box problem'. So this neural network **takes in** all this data, trains itself, builds these connections within its system and can play, but these sort of connections and whatever its quote-unquote 'intuition' is is not accessible to us. In other words, the computer can't explain why it's doing what it's doing

— it just does it. The same is true of AlphaGo in Go or modern poker-playing machines and stuff. So they're really, really good. The **issue** is, they can't teach.

THE HYBRID MODEL

Ultimately, play makes us human. Chess grandmaster Garry Kasparov pictured a future in which the best chess-playing entity would be a human and a computer working side by side. **Oliver Roeder:** The idea is you would get the best of both worlds. You would get the **raw** emotionless calculating power of the machine and the **wisdom** and intuition of the human, and, if you compare those, if you pair those together, you get the best games-playing entity you can imagine. I think this is probably going to be true in domains beyond games, too. I think it's already true. Like, how many of us do our jobs with a computer by our side for the entire day? I mean I hate to give it even more publicity, but the whole Chat GPT thing might be really useful, but it's only useful with a human guiding it and working with it. It's not science fiction; I think it's already happening.

Glossary

- **decision-making** = prendere decisioni
- **anger** = ira
- **Late** = defunto
- **fellow human** = altri esseri umani
- **needs are met** = soddisfare le esigenze
- **starkest** = più lampanti
- **grief** = lutto
- **wisdom** = buon senso, saggezza
- **Throughout** = nel corso di
- **indeed** = realmente
- **tic-tac-toe** = tris
- **to strive** = impegnarsi, sforzarsi
- **takes in** = assorbire
- **enduring** = duraturi, longevi
- **the argument still holds** = l'argomento è sempre valido
- **elsewhere,** = altrove
- **outlet** = sfogo
- **setting up** = impostare
- **foresee** = prevedere
- **to boost** = aumentare
- **account** = conto, resoconto
- **no one in their right mind** = nessuno sano di mente
- **take on** = acquisire
- **foster** = incentivare, incoraggiare
- **coding** = programmazione
- **even though** = anche se
- **deception** = inganno
- **leisure time,** = tempo libero
- **checkers,** = dama
- **in the height** = nel pieno
- **to come together** = riunirsi
- **hidden** = nascosta
- **in the first place** = per cominciare

- **denial** = negazione
- **relate** = rapportarsi
- **overcome** = superare
- **denied** = negare
- **really damn good** = maledettamente buono
- **delves into** = addentrarsi in
- **randomness** = aleatorietà
- **otherwise** = altrimenti
- **crave** = desiderare, bramare
- **protein folding** = ripiegamento proteico
- **issue** = problema, questione
- **raw** = crudo
- **say...** = diciamo
- **Whereas** = mentre, invece (avversativo)