The phrases “real world scientific progress” and “the power of online games” are strange bedfellows. Yet surprisingly, they found themselves thrust together in the media last week due to the publication of an article in the journal Nature Structural & Molecular Biology.

This was the latest result of Foldit, a multiplayer online game developed by a team based at the University of Washington that cleverly uses the framework of a game for laypeople to help decipher the structures of proteins – in this case the structure of a protein known as retroviral protease that’s key to the way HIV multiplies.

The problem posed by the group of researchers – turning a flat, two-dimensional image of a protein into a useable three-dimensional model – was as complex as Foldit’s solution was eloquent. The structure of a game was placed around the research, turning thousands of hours of labour into an interesting activity for idle internet users.

Apart from the obvious interest in the research breakthrough (related, as it was, to AIDS research) and the unconventional manner in which it was achieved, there are some interesting threads of discourse underpinning that news story.

Although the successful coupling of games with science is highly unusual, the reporting of the issue falls squarely into familiar patterns. The public discussion of video games often falls into three categories:

1) Moral panic (videogames as related to social ills)
2) Profit (the extraordinary revenues that certain video games generate)
3) The exotic (the category Foldit slips into).

The “exotic” tag positions video games, and more frequently their players, as an unusual subsection of society. Thus, gamers are frequently portrayed as obsessed with the esoteric and in possession of unusual skills, while the video games themselves are the uncanny and bizarre subculture of the outsider.

With Foldit, this idea goes all the way back to the game’s creators. “The ingenuity of game players is a formidable force that, if properly directed, can be used to solve a wide range of scientific problems,” said Firas Khatib, of the University of Washington’s biochemistry lab in a press release.

What’s at play?

This is troublesome for several reasons, the least of which being that even identifying “gamers” as a discrete group of society is increasingly difficult, with the latest Australian figures showing 68% of Australians play video games.

Identifying the social strata to which the Foldit players belonged to in this specific case is even more tricky. Who’s to say they weren’t regular gamers at all, but merely interested people who either had a connection with the project or found it an interesting way to pass the time?

Another stereotype underpinning last week’s response to the Foldit story predates video games by many years – the idea that the act of play is a waste of time.

This was popularly argued by French intellectual Roger Caillois in his 1958 book Les jeux et les hommes: “Play is an occasion of pure waste: waste of time, energy, ingenuity, skill, and often of money.”

We see the confusion of two juxtaposed myths – the waste of play and the reward of scientific research – clearly reflected in the Foldit story.
“Wasting time for a good cause,” was the headline from popular blog BoingBoing’s story on Foldit in May, while The Age quipped that gamers had “achieved a feat beyond the realm of Second Life or Dungeons and Dragons.”

**Fun factor**

The trend towards repurposing games for very desirable ends has grown substantially over the last few years. There are games for predicting life in a post-peak-oil future, games for improving your health, and still more games to benefit scientific research.

Jane McGonigal, one of the loudest advocates for games of this type, claims that by 2023 a games designer will be nominated for the Nobel Peace Prize. In her 2010 book, *Reality Is Broken*, McGonigal uses Foldit as a case study for harnessing “the real brain power of gamers”.

Putting aside the individual merit of each example, the underlying thought here seems to be allied with Caillois’ assessment of play-as-waste. It’s up to designers, to quote McGonigal again, to “commit to harnessing the power of games for real happiness and real change”.

We must be cautious in drawing conclusions or a precedent from Foldit’s success. It is in many ways the perfect story of cross-purposes combining, and that makes it difficult to emulate.

Foldit worked not just because of clever design by the research team, but because the basic activity of turning a 2D image into a 3D model felt playful to begin with.

It required no expert knowledge and was similar to logic puzzles that are already enjoyed by thousands around the globe. It wasn’t difficult to imagine it could be fun.

Not all research projects will be as happily transposable to a game context, and therefore we must be extremely wary of pointing to an idealised future where the “skills” of gamers are frequently repurposed for science.

It’s possible we are standing on the precipice of an era of game-based research, but that would require owning up to something the media’s reactions to Foldit suggest is currently unthinkable: that gamers are not exotic others, but all of us.