HAMM-3R: Tools, Gameplay, and Epistemic Mediation

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Abstract. Taking the experimental videogame *HAMM-3R* as an illustrative case, this paper examines how videogames function as epistemic tools that shape players' perceptions, interpretations, and interactions with gameworlds. Drawing on theories of epistemic action and technological mediation, we argue that both in-game tools (like special visors, guns, and grappling hooks) and games themselves clearly influence how players understand situations and pursue goals. In *HAMM-3R*, the presence of a plasma rifle and familiar shooter-game interface conventions encourage players to interpret the environment as hostile and gameplay obstacles as solvable with the use of a gun. By systematically frustrating these expectations, the game prompts reflection on how tools shape cognition and behavior.

Keywords: Videogames · Epistemic Tools · Mediation · Philosophy of Technology

1 Introduction

Videogames are specific kinds of epistemic tools: they provide us with knowledge. They are artefacts that we can interact with to learn about a gameworld. They offer us representations of characters, events, and environments through which we can explore a fictional gameworld, its history, and what comportment one is supposed to adopt in it. Moreover, videogame artefacts also self-reflexively provide us, the players, with information about how we can meaningfully interact with them. Game interfaces, tutorial pop-ups, and character dialogues are often designed to point us in the right direction in the gameworld, tell us which buttons to press to move our avatar, and hint at how to solve certain puzzles.

Videogames can provide information in two ways. Some videogame elements directly make information available to players in the shape of interface elements such as HP-bars, which tell us exactly how much health we (or our enemies) have left, or mission markers, which tells us where we should go next. Other videogame elements more indirectly present information, in the sense that they afford us the possibility to perform certain epistemic actions. Epistemic actions are actions that do not just have the pragmatic aim of achieving "a physical outcome in the environment," but an epistemic

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X. Ochoa and J. L. Plass (Eds.): JCSG 2026, LNCS 17233, pp. 17–23, 2027.
https://doi.org/10.1007/978-3-032-43871-3_2

aim: "we move our bodies to acquire information and learn about the world" [2]. Kirsh and Maglio [8] explain the difference between pragmatic and epistemic actions by using *Tetris* [10]. A player who rotates a tetromino in *Tetris* to make it fit into a slot is acting pragmatically. A (beginner) player who is, however, rotating the tetromino to help them determine where it would fit, is instead performing an epistemic action: the act has an epistemic aim, as it supports a problem-solving process.

Many actions players undertake in videogames have the epistemic aim of acquiring information about the gameworld. As an obvious example, players move the camera and their avatars through this world to be able to see more of it, better understand its layout, and pinpoint the locations of enemies. Avatars themselves also have access to various in-game epistemic tools (that is: tools that provide knowledge directly, or allow the performance of epistemic actions). It might be useful, for instance, to think of the pokédex, which can be checked to learn about Pokémon, binoculars, which can be used to acquire information about far-away game locations, or the portal gun *in Portal* [11], which, through a trial-and-error process of creating wormholes, allows players to figure out how to navigate the game's rooms.

2 Games as Epistemically Mediating Tools

Just like (arguably) all tools, epistemic tools mediate how we perceive and interact with the world. That is: we don't just use certain tools as neutral instruments to get to know the world or fulfill our epistemic goals. These tools also influence how we think about the world, or even what our epistemic (sub)goals are. A famous quote often ascribed to Maslow expresses this idea as follows: "If the only tool you have is a hammer, it is tempting to treat everything as a nail."

This quote already hints at the two ways in which tools can mediate our relation to the world: they can mediate our experience or perception of the world, and they can mediate our interaction with it [13]. Using the example of the hammer, we can illustrate how tools can shape our perceptions and actions. Firstly, having access to a hammer influences how you perceive and interpret your surroundings. Everything is more likely to be perceived as "something to be hammered" (i.e., something nail-like) for someone wielding a hammer. Even where before no object was noticed, now one might perceive the presence of a nail to be hammered. Secondly, someone who has access to a hammer is more likely to prioritize the act of hammering as a solution to encountered problems.

With regard to videogames, Van de Mosselaer [12] illustrates these two types of mediation with the grappling hook item in *Sekiro: Shadows Die Twice* [3]. Before having access to the grappling hook, players move through *Sekiro*'s gameworld slowly, making their avatar Wolf sneak through grass and shimmy across precarious ledges. After acquiring an in-game prosthetic arm that is fitted with a grappling hook, however, both Wolf's and the players' perception of the gameworld and interactions with it are transformed: "The game world becomes bigger, as more areas are reachable now. Movement becomes faster and smoother. Moreover, players start thinking about the game world in more vertical terms, as the prosthetic arm allows Wolf to latch and hop onto tree branches and roofs" [12]. Importantly, the grappling hook is an epistemic tool that mediates the way players interpret and gain new knowledge about the gameworld. After

acquiring this tool, in-game ravines are no longer perceived "as an indication of the limits of the game world, but as a potential hurdle to be overcome by finding a suitable tree branch to latch onto" [12]. The in-game environment is perceived and interpreted differently based on player's access to the tool.

Van de Mosselaer also notes how the grappling hook motivates players to act in specific ways: when the device becomes an extension of the avatar's body, players become more likely either "to avoid combat altogether by stealthily slipping by on rooftops, or to utilize hit-and-run tactics by retreating to said rooftops whenever in danger of becoming overwhelmed" [12]. Similarly, the grappling hook shapes certain epistemic actions, as it affords players new ways to reach high vantage points, with the aim of learning the lay of the land, spot potential threats and obstacles, and decide on a path through the game environment. In this sense, we could say the grappling hook also allows for an extension of the avatar's (and, consequently, the player's) mind, as it supports the performance of cognitive processes and enables new ways of solving epistemic tasks that were unavailable before acquiring the device [1].

Our knowledge of gameworlds, and our ways of gaining more information about these worlds, are thus mediated by the types of in-game tools our avatar has access to. Similarly, games themselves are artefacts that shape players' epistemic attitudes and behaviors. We are here referring to the fact that players of games have access to epistemic tools that the avatar does not have access to. The way players perceive and act in gameworlds is mediated by extra-diegetic instruments such as mini-maps, which provide information about one's location in the gameworld and are actively used in the epistemic task of navigating it. Likewise, the presence (and absence) of certain buttons on the game controller also shapes and limits the types of actions players can undertake to explore the gameworld. Certain on-screen interface elements, such as the presence of a high-score counter, an HP-bar, or a speedometer, also give players important clues about what kind of game they are playing, and what goals they can or even should pursue in it.

In sum, both game artefacts themselves, as well as the in-game artefacts game avatars have access to, shape our cognitive processes when playing. We interpret in-game problems based on the intra- and extra-diegetic instruments offered to us by the game artefact, and our ways of tackling these issues are, in turn, influenced by the (epistemic) action possibilities this artefact affords.

Even though this process of epistemic mediation is present and often pervasive in gameplay, it is usually implicit to the player whose perception and action are being mediated. American philosopher of technology Don Ihde [6] stresses that mediating tools often recede to the background of our experiences, withdrawing from conscious awareness. To use the analogy of the hammer again: the person who uses the hammer is often not conscious of the hammer itself. Instead, their attention is focused on the nail or the action of hammering. Players do not usually reflect on games (and in-game tools) as (epistemically) mediating artefacts, as they are focused on the performance of the cognitive tasks themselves, instead of the tools that enable and shape them.[1]

[1] In talking about embodied relationships with technologies, Ihde is inspired by Martin Heidegger's idea that our dealings with tools are typically one of customary and unthinking "readiness-to-hand" [7]. Similarly, Maurice Merleau-Ponty famously described the blind man's cane as

This is why, in the next section, we focus on the game *HAMM-3R* [5], an experiment in playable philosophy that was specifically designed to make players reflect on the epistemic kind of mediation described above.[2] Note that we will give considerable spoilers concerning *HAMM-3R*. To avoid ruining the experience for the reader, we invite them to play the game before continuing (playtime: ~ 7 min).

3 *HAMM-3R:* Foregrounding Epistemic Mediation

HAMM-3R (freely accessible and playable on the official website: https://hammer.guale-ni.com/) is an action-adventure videogame developed in 2026 by Stefano Gualeni (together with other members of the Institute of Digital Games, University of Malta). Formally speaking, *HAMM-3R* presents itself as a science fiction-themed, first-person action shooter videogame. Controlling Martín (the captain of a small hauler ship—basically a glorified space truck), the game asks us to solve a problem. The problem, that is the in-game quest at the heart of the experience, is explained by the only other being that shares the space truck with its captain: a mildly annoying artificial intelligence called 3R. 3R explains to Martín that it was essentially forced to wake him from reefer sleep (i.e. being frozen during long hauls) due to an issue with a lost, old tanker that they were supposed to tug back to a space station. The tanker, left to drift in space, is showing unexpected signs of activity within its interior (Fig. 1).

Fig. 1. Within the hauler ship, at the beginning of *HAMM-3R*, Martín reacts to the unsettling news he just heard from his artificial assistant (3R).

The artificial intelligence cannot exclude the presence of organics, but cannot quite determine what is going on inside the old tanker by just using its instruments. This means that Martín needs to go in and find out firsthand. When the player, taking on the role of

something that ceases to be an object that is consciously used, instead becoming an extension of the man's body [9].

[2] With 'philosophical games' we indicate playable experiences designed to invite players to think philosophically within (and about) their gameworlds. They are interactive fictions that allow players to actively and experientially engage with philosophical themes [4].

the captain, tries to enter the mysterious tanker, 3R recommends—read: forces—Martín to take a plasma gun for his safety. At this point in the game, players do not simply control a futuristic man; they control a futuristic man with a gun.

After the gun is picked up, the game adds a couple of additional epistemic devices to guide players' behaviors and aspirations: (1) a conventional health indicator appears, suggesting the presence of hostiles, and the related possibility of losing health in conflict, and (2) a crosshair is now visible in the middle of the screen, allowing the player to see where they are aiming the plasma gun, and implying the necessity of eventually using it with accuracy against one or more targets.

The corridors of the old tanker are designed to be ominous, labyrinthine, and full of dark corners. Granting players interactive access to this environment makes our previous point on epistemic mediation experientially evident. When players impersonate an avatar holding a futuristic rifle (an element of the game that is particularly conspicuous both aesthetically and in terms of screen occupancy), most problems and obstacles will begin to look like something that can be solved with a plasma discharge. In other words: players' perception of the gameworld (their interpretation of it as hostile environment) as well as their actions within it (the fact that they will likely shoot things in said environment) are shaped by the specific tool the game has offered them. Very often, this even happens unbeknownst to them.

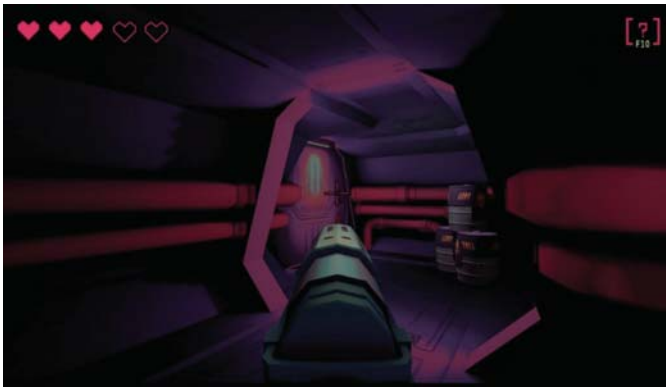

Fig. 2. The protagonist of *HAMM-3R* explores the corridors of an abandoned space tanker with a plasma gun as his only companion.

HAMM-3R, however, was designed to foreground and problematize how players' expectations and habits are shaped by the tools they have access to. When players decide to fire the plasma gun, in fact, the game punishes them severely. Throughout the tanker, fuel pipes are artfully positioned at the approximate height players are likely to shoot at (see Fig. 2). As a consequence, players who shoot often trigger catastrophic explosions that destroy the tanker and immediately kill their avatar, resulting in a game over. The same applies to the explosive barrels scattered throughout the environment. Within the logic of many shooter videogames, such barrels almost invite experimentation or playful destruction. Many of these barrels in *HAMM-3R,* moreover, block entrance to corridors

in the tanker, a hindrance that players typically find irresistible to solve by shooting the barrels. In *HAMM-3R*, however, this action leads once again to the destruction of the tanker and the death of the game's protagonist.

Finally, toward the end of the game, players are confronted with a mysterious computer that seems to be running a strange simulation in the heart of the tanker. At this point, they are given the possibility of shooting it. Many players will feel tempted to do so simply because the game has repeatedly foregrounded the presence and usability of the gun. Yet destroying the computer does not substantially alter the ending of the game, and does not affect its narrative. This pseudo-choice, instead, only exists to encourage players to reflect on the epistemic mediation performed by the weapon throughout the experience. Should they have solved the mystery of the running computer by *destroying* it? Was shooting it merely a response encouraged by videogame conventions and by the persistent presence of the gun itself? The game intentionally leaves these questions unresolved.

4 Conclusion

As explained on the official website of the game, *HAMM-3R* explores the idea that our equipment influences how we understand the world and act within it. Through playful interactions, the game proposes that our tools—like a hammer, a pair of binoculars, or a plasma gun—do not merely extend our agency but actively transform us, inviting specific interpretations, expectations, and modes of engagement with reality.

The game presents several problems or questions that invite us to perform cognitive tasks (navigating a maze-like level, deciding on what to do with a mysterious computer at the end of the game). Its players typically tackle these in a way that is shaped by the only tool that their avatar has access to: a plasma gun. Players who end up blowing themselves up because they tried to get through the maze by shooting barrels that were blocking off corridors are invited to immediately play again. They can then find out that, whenever a corridor is blocked off, they can simply get to the other side by way of different corridors. In fact, without the gun, and the actions it invites, players would be *more* likely to discover this (non-violent) solution immediately.

Interestingly, *HAMM-3R* can thus be seen as a meta-epistemic tool. It is an epistemic tool that affords us to learn something about our own epistemic attitudes and interactions within gameworlds. It does this by making us interact with a gameworld in a mediated fashion, to then turn our attention to those elements of our gameworld interpretation that are usually *transparent*. It thus makes us aware of how our thinking and acting was shaped by the in-game tool of the gun, and the interface elements we had access to. In other words, this game motivates a self-reflective learning process, in which we acquire information about how we acquire information. In essence, the game's goal is similar to the epistemic aim of this paper: to elucidate how our tools influence our cognitive processes. But while this paper directly and passively divulges this information to readers, the game indirectly and interactively shows it to players. It is only after having used a gun solely because they have access to it, that players are left to stare at the explosive consequences of their actions, reflecting on why they did it, and what made them do it.

Disclosure of Interests. The authors have no competing interests to declare that are relevant to the content of this article.

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