

James Malazita, **Enacting Platforms: Feminist Technoscience and the Unreal Engine**, Cambridge, MA: MIT Press, 2024, 231 pp., \$40.00 (paperback).

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Tools for producing content are often overshadowed by the personalities of creators or the impact on their communities. However, these platforms are key in (literally) developing contemporary culture and reflect struggles regarding representation and power embedded in their interfaces, protocols, and usage. Such a reality is particularly evident in game engines, software that provides the building blocks of games (e.g., physics, lighting), while also acting as the intermediary and compiler for other assets. Vital for game production, they are becoming increasingly ubiquitous in everything from providing backgrounds for *The Mandalorian* to automotive design, even as their history, influence, and vitality remain underexamined.



James Malazita expertly navigates this complex territory in ***Enacting Platforms: Feminist Technoscience and the Unreal Engine***. Through Epic Games' software, he provides a comprehensive understanding of how Unreal impacts different "strata of digital culture" (p. 5) while also situating its dashboards, control panels, editors, extensions, and existence within broader questions of power and representation. Like a game engine, multifaceted parts are assembled to unveil Unreal's more profound meanings to communications practitioners and scholars alike.

Malazita first situates Unreal within platforms, a near-ubiquitous term in contemporary society with connections to business, science and technology studies, and game studies (among other fields) to discuss multisided markets, technical infrastructures, and modes of governance (e.g., Poell, Nieborg, & Duffy, 2021). "Platform tools" (Foxman, 2019), such as game engines, encompass all these components while serving creative purposes, making them a complex example to describe the concept. Malazita confronts this reality through a "game-centric model" (p. 10), examining programmable content while acknowledging its affective and embodied dimensions, drawing on scholars like Aubrey Anable (2018) and Lisa Nakamura (2014). This allows him to treat the tool "as a *situator*, in that the layers/levels model produces situations that allow certain kinds of knowledge practices to come into being . . ." (p. 16; emphasis in original). Such "enactment" is the way objects "are brought into being in multiple, sometimes conflicting, ways through sociomaterial practices" (p. 17). It situates how contemporary platforms' systems and usage are grounded in cultural realities.

Enactment underscores each chapter. The first, "Seeing Like a Soldier: The Coproduction of Engine and State through America's Army," begins with how Lieutenant Colonel Casey Wardnyski

developed the game and, as a result, solidified Unreal within a militaristic legal and technical infrastructure explicitly built around the recruitment of young men.

After this history, the second chapter, "Orienting Z: Interfaces and Coordinate Spaces as Unreal's Bodily Proxies," examines the three-dimensional virtual environment within the engine. First-person shooters heavily influence interface navigation; however, orientation axes often conflict with most computer-aided design principles and programs. This "failure . . . can be leveraged in Unreal to creative and productive ends" (p. 85).

Malazita then moves to agency via the Kismet scripting system, which facilitates actions within a game. His prime example, *Bioshock Infinite's* nonplayable character (NPC) Elizabeth, highlights how Kismet's AI creates unique gameplay while simultaneously upending stereotypical tropes of women's representation in games, where they often derive from male counterparts or serve them. Elizabeth, by contrast, distinctly exhibits "narrative, material, and agential" (p. 116) power from the main character, Booker.

The following two chapters scrutinize representation of a different form. In chapter 4, "Epistemic Prestige in Unreal's Physically Based Rendering," Malazita tackles "PBR," which is the foundation for the engine's graphic overlays and manifests in "shaders," the "magical paint" (p. 132) that provides texture to a scene that often is associated with a "palpable feeling of wizardry" (p. 132) when successfully rendered. He argues that PBR is grounded in "aesthetic claims" from "cinematic and scientific logics of whiteness" (p. 127). Consequently, PBR reflects a narrow and difficult-to-reproduce version of what is "photorealistic." The fifth chapter, "The Race Histories of MetaHuman Creator's Skin, Shine, and Melanin," expands to avatar construction that similarly is rooted in racial history and normative expectations; even in MetaHuman promotion videos, the hyperrealistic Black avatars it generates lack visual richness due to the ways dark skin is poorly lit in the software (p. 152).

In the concluding chapter, Malazita turns his focus toward implications via the metaverse. This topic has fascinated Epic Games' CEO Tim Sweeney, who long claimed it as the next evolution of the company. Sweeney imagines that "creative and design elements of the Unreal Engine would be repurposed into gameplay and player-led content creation assets brought[t] into [Epic's flagship virtual environment] *Fortnite*" (p. 185). This demonstrates how the software and its limitations can lay the foundation for future content beyond gaming.

Enacting Platforms serves as an essential bridge between the various strands surrounding platform studies. Malazita not only recognizes the multitude of novel modes of cultural production enabled by these frameworks but also deftly navigates their technical, cultural, and practical implications in a subfield where these components are often regarded separately. His tactic persists throughout the manuscript: The second chapter begins with a common game development student experience, capturing their frustration in navigating the Z-axis, and concluding with "Why aren't these software packages all the same?" (p. 60). The narrative example serves as a means to consider how "logics of the body and space become muddled" (p. 61) and ultimately forms the basis for exploring theories by Dylan Mulvey and Sara Ahmed (p. 62) regarding bodies at work, embodied orientation, and queer phenomenology. This trajectory provides a visceral means of grasping the complexities of a highly complex application.

His evocative moments also bring obscure and routine development activities to light. In discussing how the MetaHuman creator represents melanin, for example, Malazita dissects the layers of material that comprise a virtual Black face, replete with screenshots to illustrate the point (p. 162). The examination reveals that melanin is not an inherent property of the skin shader (p. 172). He then connects the pigment's absence to the history of camera technology, citing photographic controversies (p. 172) and theories of "post-intentional" racism, which made their way into the program—a "borrowing of the cultural cache of physics allows for these political and aesthetic issues to be either rendered invisible . . . or rendered technical" (p. 175).

The revelations disclose the creative process in ways that are both profoundly described and phenomenologically rich. At the same time, this process undercuts normative assumptions about how platforms work. From his aforementioned discussion of the cultural background of melanin to illustrating issues of navigation and orientation in Unreal via an introductory video tutorial (p. 71), Malazita delves into the intricacies of his subject, using often-overlooked minutiae to illustrate the cultural influences that constitute the engine and how it operates. In doing so, the application is seen for what it is, an assemblage of parts and algorithms working in concert to realize a particular set of norms and practices when it comes to digital production.

Such an assemblage at times may seem random to the uninitiated, but for those familiar with game engines, it feels familiar. It is worth reiterating that these programs serve a multitude of purposes, and the care with which Malazita draws his case studies reflects the game development process itself, which often involves exploring rabbit holes or toying with the technology to realize its capabilities. The reader follows Malazita along these paths, navigating specific corners and components of the engine to which he draws attention and suffusing them with cultural meaning and theory, an ethos that includes questions of power and culture in dialogue with the technicity often associated with platform studies.

Moreover, the trend toward platform tools is only intensifying; scholarship is increasingly recognizing the importance of TikTok creator tools (e.g., Mahetaji & Nieborg, 2024), while Meta is expanding its suite of apps in response. Virtual environments like *Fortnite* and *Roblox*, with which Malazita concludes his work, are increasingly positioning themselves as one-stop shops for creating, marketing, and entertaining the youngest users. Even streamers rely on a network of different apps to produce and sustain their social presence (Harris, Foxman, & Partin, 2023). Malazita's work is a stark reminder that the technical limitations and interfaces of programs ranging from OBS to Roblox Studio are embedded with meaning that reflect and refract their histories, as well as the ideologies of those who develop, maintain, and upgrade them. Like a game engine, these apps require recompilation and integration within this milieu. *Enacting Platforms* serves as an excellent guide on how to do precisely that.

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