

cially available, and therefore Sharp's coverage of them and other games to which the reader might not have access is of crucial importance. Sharp adroitly guides the reader through the intersections of two theoretically rich and highly specialized disciplines. In the hands of a less skilled writer, this might be a dense and seemingly impenetrable world. But *Works of Game* is clearly written for a broader audience, and Sharp's lucid prose manages to make complex concepts approachable and accessible for those unfamiliar with either field—or both of them. Marcel Duchamp serves as a fitting framing device for the book and not just because of his Cubist painting *Portrait of Chess Players* (1911) and his participation in Cage's *Reunion*. Duchamp famously commented on his lifelong fascination with the game: "I am still a victim of chess. It has all the beauty of art and much more." As John Sharp's spirited book demonstrates, we have much to learn about the aesthetics of games and art and the powerful hold that they both hold over us all.

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I AM ERROR: The Nintendo Family Computer/Entertainment System Platform
Nathan Altice.

Cambridge, MA: MIT Press, 2015. Series forward, appendix, notes, sources, index. 426 pp. \$40.00 cloth.
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The Nintendo Entertainment System

(NES) and its Japanese predecessor, the Family Computer or Famicom, hold a unique place in video game history as the bridge between two eras. Before Nintendo's console, which was released in Japan in 1983 and in North America in 1985, the vanguard of electronic play was the arcade cabinet produced to play a single game. Nintendo's *Donkey Kong* (1981) was one such game, which was adapted for play in the home as a cartridge for a variety of consoles including the Famicom and NES. The Famicom/NES was the platform that established home console play as the vanguard. As processing power increased and PC gaming developed, the arcade faded as a key site of electronic leisure. In the later 1980s and 1990s, playing Nintendo was often synonymous with playing video games, and Nintendo has endured into the present by continually exploiting the intellectual property popularized by the Famicom-NES platform, particularly *Mario Bros.* (1985), whose origins are in *Donkey Kong's* Jumpman. Few video game producers or platforms are of greater historical significance than Nintendo and the NES. As an entry in the groundbreaking MIT Press series of Platform Studies, Nathan Altice's *I AM ERROR* gives Nintendo its due as an object of rigorous critical and historical study, while also providing a welcome intervention within the literature on platforms as cultural artifacts. Our knowledge of video game consoles and of this one in particular are substantially increased by Altice's exhaustive efforts to explore and explicate the Famicom-NES from the inside out, but so are our understandings of digital cultural expression and the poetics of computers as expressive media. This book serves as a

case study and exemplar of the history of digital technology as an aesthetic terrain.

As a platform study, Altice is engaged most deeply with the task of opening the black box of the Famicom/NES to show how its material form produces particular technological affordances. But he is equally interested in showing how cultural constraints external to the technology itself shaped the platform, and how the platform in turn shaped later instances of cultural expression such as PC game emulations and electronic music such as “chiptunes” composed specifically for the Famicom/NES processor.

The most resonant themes of this study are easily applicable beyond the particular case of the Nintendo console. One is the way a platform functions as a point of always uneasy and often flawed translation between languages, cultures, technologies, and experiences. The other is the refrain of platform constraints (such as technological limitations) functioning as creative opportunities. Altice is most compelling when sounding these themes.

Sometimes, Altice uses translation in its literal, linguistic sense. The book’s title is taken from an emblematic instance of a humorous Japanese-to-English translation fail within NES game text. But every chapter has its own version of this same dynamic of problematic translation, and the platform itself was in some ways the product of an effort to translate (in video game parlance, to port) Nintendo’s biggest hit of the time, *Donkey Kong*, from one platform (arcade cabinet) to another (home console). Translation applies to cultural as well as linguistic processes, as the specificity of Japanese artistic traditions are mashed up with Western tropes and

packaged for global consumption in products like *Super Mario Bros.* and *The Legend of Zelda* (1986). Translation also describes extensions and outgrowths of the Famicom/NES platform, which was regularly expanded in various ways technologically, and which lives on in numerous software emulations. In translating the technological and cultural forms of the Famicom/NES, glitches and errors are a norm, and failures of the platform to remain stable can be seen as features as well as bugs. In this way, Altice challenges some of the premises of the platform series by insisting on the instability and liminality of platforms. This is a welcome pushback against a presumption of platforms functioning as coherent systems.

In making connections between the technological affordances of the Famicom/NES and the games considered in greatest detail, such as *Donkey Kong*, *Super Mario Bros.*, *The Legend of Zelda*, and *Dragon Quest* (1986), Altice shows quite convincingly how the expressive potential of Nintendo’s console was a product of constraints and limitations. In great technical detail, Altice explains the creation of game images in sprites and background tiles and metatiles coded in the assembly language of the console’s processor. He shows how the platforms in *Mario* games and the dungeons in *Zelda* games are constructed and how the worlds scroll and players move to best exploit the modest processing power of the platform. In making these arguments, Altice shows an affinity with art historical and musicological studies matching the tools of the artist in their historical context with the expressive potential possible under the constraints of a medium, style, or any horizon of possibilities. He

shows the Nintendo game developers of the 1980s to be creative visionaries—not just programmers of game play but also composers for the novel instrument of the Famicom processor.

This book is highly revealing and informative, but given its topic, it can also get exceedingly technical and hard to grasp for an outsider to the field of computer programming. In chapter 1, for instance, the reader encounters the terms polysilicon mask, addressable memory, binary coded decimal mode, sprite overflow flag, address bus, CHR-ROM, palette index, pattern table bitplanes, and PPU I/O control registers. Some of these terms make sense in context or in consultation with the appended glossary. I confess there were pages where I found myself lost in codespeak, though this says as much about me as it says about the book. Most passages like these are concerned with explaining how the Nintendo console made its pictures appear and move on television screens, and one especially impressive and illuminating chapter does the same for sound. Less is said about interactive game play and the experience of the Famicom/NES for typical players and even less about the contexts of play in everyday life. But this kind of book is more about looking under the hood and less about taking the hot rod out for a spin. We learn a lot by looking, and Altice is an expert guide.

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Values at Play in Digital Games

Mary Flanagan and Helen Nissenbaum

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Notes, references, game references,
index, images. 207 pp. \$25.00 cloth.
ISBN: 9780262027663

At 207 pages, Mary Flanagan and Helen Nissenbaum's *Values at Play in Digital Games* is a light volume that packs a hefty punch. In this book, divided into three sections with a total of nine chapters, the authors present a framework for thinking about the ways in which games can communicate values, how to analyze the values a particular game might express, and how to guide a game development process such that its output is effective at presenting the values intended by its developers.

The first section of the book serves as an extended introduction to the notion that games can, and do, reflect, communicate, and include values. It argues for why a designer would want to include values in a game's design, provides sample analyses of some of the values embedded in different games, and also presents an overview of fifteen different game elements that can (and probably should) be examined from a values perspective. The second section discusses how game developers can purposefully incorporate values in their games and how to verify that they have succeeded at this goal. In the final section the authors argue for why this all matters: talking and thinking about values in games leads to better, more innovative games.

Readers familiar with the authors' prior work will find that this book serves as a capstone for the publications and research that have been conducted over the last ten years as part of the Values at Play project. Earlier findings and ideas have been iterated upon, streamlined, clar-