

MIND AT PLAY

THE PSYCHOLOGY OF
VIDEO GAMES

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MIND AT PLAY

fantasize yourself into a “real-life” situation. Imagine a game in which you were *in* the Pac-Man maze, instead of looking down at it. You would be swept down the corridors gobbling up dots wherever you found them, evading the monsters, and, in general, doing what Pac-Man usually does in a Pac-Man game. From your point of view, of course, many things would have changed relative to the normal Pac-Man situation. Lacking the bird’s-eye view of the maze usually enjoyed by Pac-Man players, you wouldn’t know where the monsters were unless they happened to appear in the corridor, thus monsters would unexpectedly leap out from behind a corner, or would be lying in wait at the next turn. Moreover, you would forget pretty quickly where you were in the maze since you couldn’t see yourself from the outside. As might be expected, this uncertainty would lead to problems—for instance, once you had eaten a row (or, as it appeared to you, a corridor) of dots, you wouldn’t quite remember where the rest of the unconsumed dots were. You wouldn’t have the traditional luxury of being able to glance around and see where the energizers were and how many were left. Finally, you rather than your little surrogate face would be the one in danger of being obliterated at any moment.

This hypothetical invention, “Ground-level Pac-Man,” might become a reality, someone will take the concept and program it because, technically, such three-dimensionality is entirely feasible. In fact, someone has more or less thought of this idea. In Disney’s box-office hit *Tron*, the central character is a man called Flynn, who is an expert computer programmer as well as a world-class video game player. During most of the movie, Flynn is trapped inside a video game trying to get out. As he zips through corridors, enemies continually try to attack him. In the end—of course—he frees himself.

CHAPTER 4

THE ARCADE SUBCULTURE

People get involved in the arcade subculture for a great variety of reasons. To illustrate some of them, we will invent a teenager named Paul. In our many conversations with people about the games and about others they know who are drawn to the games, the general qualities and life experiences we ascribe to Paul came up again and again. Later we will introduce Marlene, a similarly derived character.

Socializing in the Video Parlor

So to Paul. Let us say that he is a fifteen-year-old high school student who always had difficulty interacting with other people. When he was younger he got into fights with just about

everyone. He was withdrawn and he didn't do well in school. His parents, both very busy, had little time to spend with their son—they acknowledged his existence mainly by responding to phone calls complaining that Paul had been throwing rocks at passing cars or harassing younger children. When this happened, they'd tell Paul not to do these things any more, or sometimes they'd make him stay in his room all day Saturday. There he would indulge himself in hours of playing records. He was also using drugs—beer and marijuana for the most part, but occasionally something a little more exotic, such as speed or angel dust.

One day Paul wandered into Arnold's Video Arcade, where he discovered *Defender*, *Asteroids*, and *Donkey Kong*. This was a brand-new world for Paul, and he took full advantage of it. He'd eagerly await his paycheck from his part-time job at the local gas station so he could convert it into quarters and head for Arnold's. He no longer cared about picking fights or throwing rocks. He stopped worrying about whether his busy parents really loved him or not. Paul's pleasures were simple: he enjoyed playing video games and would play them for hours on end. He lost interest in drugs and rock 'n roll, which was just as well since he was spending all his money at Arnold's and there wasn't anything left for these former pleasures.

Paul made friends easily at Arnold's, and for the first time in his life he felt genuinely happy. Aside from school and the gas station, Paul's whole life revolved around video games and Arnold's Video Arcade. Even when his friends weren't around, Paul still hung around the arcade, because he loved it there. He had friends—not only his human companions, but, as we'll see presently, the video games themselves.

The reasons teenagers—a main audience for the games—hang out at video parlors may not be all that different from the reasons older folks hang out at bars and coffee houses and office

water coolers. It's done largely for social companionship and entertainment. But for the teenagers, there is an additional reason. An easy way for them to rebel—to distinguish themselves from their parents—is to concentrate on the pursuit of activities that are different from those of their parents. Such activities can't be too weird, or the participant would be a nonconformist—anathema to a teenager. The most reasonable activities are those on the cutting edge of culture—activities that have just entered the culture but haven't entered far enough to be acceptable to everyone, to parents in particular. So, for example, rock 'n roll music first became popular among teenagers in the 1950s and 60s—and, true to form, their parents hated it. Now these very teenagers are themselves becoming parents of teenagers. It would never do for these new teenagers to accept the old rock 'n roll that their parents like. Instead they are turning to punk rock and new wave—and video games. Anything to be different.

THE VIDEO PARLOR AS MEETING GROUND

American Graffiti, set in 1962, incorporated two phenomena that were then on the cutting edge of culture: the souped-up automobile and the fast-food, drive-in restaurant. In the film, the restaurant included such oddities as waitresses on roller skates. But, more important, the drive-ins served as a gathering place for teenagers.

The video arcade serves a similar role today. These "drive-ins of the 1980s" not only are novel but they are also a breeding ground for social interaction. They're places where social contact is made in a friendly atmosphere and where friendships are formed. They constitute the foundation of a subculture with its own norms, values, and patterns of communication. For example, it's acceptable to intently watch a person who's in the middle of a game of *Defender* but not to strike up a conversa-

tion with that person Through the process of coming to learn the culture's norms and appropriate ways of communicating, and through the common ground for communication that the arcade provides, social norms are learned and friendships blossom The fast-food joints of the 50s and 60s, although frowned on by many parents, served as the training ground for future social interaction The video parlor is similar in this respect, but with a major difference

The key element in the fast-food world was, and still is, social interaction It's rare that people—especially teenagers—go to a fast-food joint by themselves In the video world, however, people not only share interests with friends, they also interact with the games themselves in a very personal, and often solitary, way One might ask what future roles are being prepared for the teenager by these curious person-game interactions, or conversely, what kind of adults these current teenagers are going to become Will they be more solitary than the current adults? Will they live in a culture that is different from the one we know today?

As illustrated by the experiences of Paul, there is more to playing video games than simply the person-machine interaction Rather, playing video games can involve an entire social experience Game playing gets connected to friendship and often becomes a way of life And yet the social experience of a video arcade, while not incompatible with the presence of human friends, doesn't require them either

When people play a video game they often feel as if they are interacting with another person One person we talked to in Houston's Space Port Arcade told us that "this game is my friend because he never ignores me" If you listen to people playing video games, you will occasionally hear them talking out loud The things they say tell you something about the remarkable, humanlike qualities they ascribe to the game.

Two psychologists, Karl Scheibe and Margaret Erwin, have studied the conversations people have with video games while playing them¹ In their study, forty students played video games while a tape recorder was poised nearby to catch any stray conversation Some students played easy games while others played more difficult ones. Scheibe and Erwin meanwhile recorded the spontaneous verbalizations issued by the players

Such spontaneous verbalization was frequent and, indeed, was recorded for thirty-nine of the forty players While engaged in play, the players made an average of one comment every forty seconds Men and women conversed with the game equally often, and they talked as much when they played a hard game as when they played an easy one Scheibe and Erwin noted a widespread use of pronouns, which they found particularly interesting since pronouns imply both a humanization of the machine and a personal involvement with it The most frequent pronoun was "it," as when a person said "It hates me" "It" occurred 244 times Next most common was "he," as in "He's trying to get me," and then "you" as in "You dumb machine!" which occurred 57 and 51 times respectively The pronoun "they," as in "They think they're so smart, I'll show them," occurred only 6 times One player referred to the game as "Fred," and several people called it "that guy." Somewhat surprisingly, no one ever referred to the game as "she"

When Scheibe and Erwin examined the actual content of what people said to the games, they noticed that the remarks fell into a couple of major categories. Sometimes people made direct remarks to the computer, such as apologizing for responding too slowly Occasionally the remark consisted of ordinary commentary, such as "It seems to know what I'm going

¹K. E. Scheibe and M. Erwin, "The Computer as Alter," *Journal of Social Psychology* 108 (1979) 103-9

to do next” Sometimes the remarks were simple exclamations such as “wow” or “c’mon” or expletives In fact, profanity was quite common when the player wanted to express displeasure at getting beaten by the machine

The nature of this one-sided conversation is illustrated by a portion of the remarks made by one player She was playing a difficult game and lost to the computer seven times in a row “Oh, rats, it got a point,” she exclaimed “Oh God . . . Stupid thing! How does it do this? Oh, shoot It’s killing me Oooh I lost by eight points I think it’s just leading me on Ha, ha, ha I think I’ve got it fooled No this stupid machine It’s so dumb It’s trying to con us into believing it knows what it’s doing Oh, come on oops It’s winning I keep looking at the scores I suppose that’s healthy, huh? It has a little mind Weird game Come on I’m going to beat you I’m losing terribly at this one I think my mind is beginning to wander That could make life difficult. Ah, well ”

What do we make of this conversation, with its heavy use of personal pronouns and its attribution to the game of human-like motives and actions? For Scheibe and Erwin, it constituted evidence that the players were reacting to the video games as if they were people Players tended to talk more in an isolated setting than in a crowded one and to use more personal pronouns in reference to the computer when it was a more difficult game, that is, when the computer displayed more “intelligence” The comments showed that the players were emotionally involved in the experience to a very great degree On occasion, in fact, a player would ask the arcade director if a real person weren’t running the game

Because of the ease with which people can come to cast the video games in the role of another person, it is a mistake to think of the games as neutral instruments in the socialization

process Video games, at least potentially, have the same power as television, the automobile, or any of the agents of socialization that exist in our society Social scientist G H Mead prophesized this power long ago when he said “It is possible for inanimate objects, no less than for human organisms, to form parts of the generalized other for any given human individual, in so far as he responds to such objects socially or in a social manner ”² By “generalized other” Mead was referring to the social group as a whole to which a person belongs Obviously Mead believed that inanimate objects might belong to this “social group”

In fact, video games probably have more power than other previous instruments of socialization (for example, TV) to affect socialization, because of the highly interactive nature of the computers that underlies the games Computers and computer games can literally replace other people in many respects Indeed we find some striking differences between socialization in the video arcades and socialization in more traditional settings For example, as anthropologist David Surrey notes, communication in the arcades—except with your close friends or with the machines themselves—is a social taboo³

IS ALL THIS HEALTHY?

Paul, the fifteen-year-old video game addict, looked forward to going to the video arcade more than anything else in life Although he never skipped school and was always home for dinner, he rarely did anything else One can’t help but wonder whether this was healthy When a teenager narrows his life like this, excluding so many other activities, should we worry about

²G H Mead, *Mind, Self, and Society from the Standpoint of a Behaviorist* (Chicago, Ill: University of Chicago Press, 1934), p 213

³D Surrey, “It’s, Like, Good Traming for Life,” *Natural History* 91 (November 1982) 70-83

him? To answer this question, it's necessary to have some concept of what it means to be healthy. Because the concept of psychological health is complex, we can't define it in simple terms. Rather we must rely on several criteria to decide. Here's one reasonable set⁴

- 1 Is the behavior good for the person?
- 2 Is the person in touch with reality?
- 3 Is the person's behavior markedly different from the norm?

We can talk about video game playing in the context of these three criteria

Is the behavior good for the person? Naturally this depends on what we mean by "good." In order for Paul's game playing to be considered good, it must not get in the way of his ability to deal effectively with the world. Is Paul able to pursue his needs, to avoid unpleasant situations, to seek rewards in a way that doesn't harm others? If game playing is associated with positive feelings such as self-confidence, self-respect, and self-acceptance, then it is probably good behavior. If it is associated, on the other hand, with negative feelings such as self-hatred, isolation, and anxiety, then it is probably bad behavior. We don't mean to say that a person can never experience negative feelings associated with some good behavior, naturally this will occasionally happen. When we mourn the loss of a loved one, we experience negative feelings, but even these feelings are inappropriate if they last too long.

Given these guidelines, we'd note that Paul's video game playing is associated with positive feelings, and they don't interfere with school or the other things he must accomplish. Therefore, we might reasonably conclude that game playing is at least not bad for him.

⁴J. Freedman, *Introductory Psychology* (Reading, MA: Addison-Wesley, 1977)

But with a slightly different set of facts, we'd conclude that the games are bad. Sixteen-year-old Marlene—a composite, as you will recall—found herself playing video games about as much as Paul, but she usually skipped school to go to Arnold's Video Arcade. She often stole money from her mother's purse to finance her video habit, and once she snatched the wallet out of a jacket that another player had left on a nearby stool. After a few hours at the video parlor, she would typically go home feeling anxious and fearful. Her mind would be focused on one thing alone—how to ransack her Mother's purse again without being found out. She thought she was clever, she typically took just coins here and there, and then a few dollar bills. She never took it all, for fear of being discovered. She managed to countervene attacks of guilt by convincing herself that everyone did this, and so it was all right. When her mother finally found out what was going on, all hell broke loose in Marlene's family. Among other things, Marlene was interviewed by a psychologist, whereupon she said she was glad she was finally caught: life had been too much like walking a tightrope. In Marlene's case, her behavior had become extreme, and her attachment to video games was taking over her life. It's reasonable to think of this situation as unhealthy.

Is the person in touch with reality? The second criterion for whether game playing is healthy involves the degree to which it interferes with a person's ability to perceive the world accurately. This isn't to say that normal, healthy people always perceive the world accurately, in many instances they do not. But there are often special circumstances that can explain isolated cases of faulty perception. In cases of extreme stress—for example, after witnessing a crime or being involved in an automobile accident—our ability to function mentally may be impaired. We may momentarily see the world inaccurately.

But if a person's game playing (or anything else) consistently

gets in the way of accurate perception of the world or accurate assessment of one's responsibilities, then the person will not be able to function well, and we might properly think of the person as mentally disturbed. When Marlene began to see the world as filled with people who steal from others to finance their video habits, she had, to some degree, lost touch with reality

Is the behavior markedly different from the norm? The third criterion for whether a behavior is healthy must be viewed in terms of the norms of the society in which the person lives. There is, of course, no one "right" way to relate to video games. Some people never play them. Others play many hours a day and could perhaps be classified as video addicts. The surveys show that between these two extremes fall millions of Americans. Since many individuals can be found who play little or none at all, and many who play a great deal, we would not classify these people as deviating from the norm. Conceivably we could find an individual who spent every waking moment playing video games and we might reasonably declare that such extreme behavior was categorically unhealthy. But short of this, we will probably not be able to say that game playing violates this third criterion for mental health. If we did, we would also have to say the same about an athlete who trains five hours a day for ten years in order to reach the Olympics.

Video Games as a Mass Phenomenon

For Paul, playing video games involved an entire social experience. Looking at the social side of video games leads naturally to a conception of the games as examples of what social scientists call collective behavior. We typically speak of collective

behavior as occurring when large numbers of people act together with a common orientation. The participants in such behavior don't have to actually be congregated together, as they might be in a football stadium. Rather they could be physically separated as they are when they watch that same football game on television. The common focus of attention, or orientation, could be based on the desire to produce permanent social change, as in the nuclear freeze movement. Or it could be based on the need for sheer entertainment, as in a rock concert.

FASHIONS, FADS, AND CRAZES

Most analyses of collective behavior include some discussion of crowds—large numbers of people who are physically near one another and who have a common focus of attention. It is here that one can find analyses of panics of escape, such as occurred in Chicago's Iroquois Theater on a December afternoon of 1903 when someone yelled "fire" in a crowded theater.⁵ But the video phenomenon is not really a crowd phenomenon per se. Rather it's a form of mass behavior that is more akin to a fad, a fashion, or a craze. How do they compare to other fashions, fads, and crazes that have overtaken us? Are they here to stay?

Fashions are always changing, being largely influenced by constant exposure to the mass media, degrees of affluence, and frequent contact with other people. Why are people motivated to follow the current fashions? Many answers have been suggested: people's wish for adventure and novelty, their desire to display symbols of success, status, and prestige, rebellion against the standards of the majority society, compensation for inferiority; and a strong need for power. Figuring out why a

⁵R. Brown, *Social Psychology* (New York: Free Press, 1965)

particular fashion is adopted while so many others are rejected is an exceedingly difficult task

Fads, as sociologists construe them, are even more ephemeral and unpredictable. Of course, something can start as a fad and then become more permanent—like blue jeans and bingo games. But for the most part, fads pop up, spread rapidly, and then disappear. This has happened, for example, with hula hoops, Mohawk haircuts, and pet rocks.

Some social scientists have suggested that a fad must seem to be novel and must be broadly consistent with the times and particularly with modern values. Fads are generally accelerated by widespread publicity, often in the form of advertising. A decade ago, for example, the curious fad of “streaking” (running in the nude in public places) suddenly came into being. In those days streakers ran across television screens and basketball courts. Male streakers streaked through female dormitories and females streaked back. Streakers sprung up in the most unlikely places, and then almost as quickly as the fad began, it was over. Why did this fad occur? One possibility is that 1974, when the fad erupted, was a socially and politically difficult time in the United States. Richard Nixon had resigned and we were just experiencing the deep shock of the first oil crisis. The rebelliousness of streaking provided some contrast and relief.

The final type of mass behavior, the craze, refers to the involvement of a mass of people in one particular activity. Sometimes this takes the form of mass hysteria. Crazes usually involve larger sums of money than fads or fashions and are thus more serious. So the Florida land boom of the 1920s and the feverish run on the banks in the 1930s are good examples. The tulip mania of seventeenth-century Holland was probably the maddest craze of all.

Fashions, fads, and crazes all have to do with actions or artifacts that enjoy a rapid rise in popularity followed by an abrupt decline. Some have argued that the typical curve for these cultural phenomena resembles the curve for an epidemic disease. First there is a latent period during which the idea is present in the minds of a few people but doesn't seem to be spreading. Next there is an explosion period in which the number of people adopting the idea grows at an enormous rate. Finally there is a period in which immunity to further infection develops.

The spread of fads and other kinds of mass behavior is most common in urban areas, particularly among young people. As we've noted, adolescents in particular tend to be always on the lookout for ways to upset and shock their elders. Often the behavior embodied in a fad provides exactly the means of doing so. Although fads and crazes have occurred throughout history, two features of modern Western culture fuel them even faster: the relative affluence that permits ever more costly social experiments and the emergence of widespread communication networks—TV, radio, and telephones—that permit their rapid spread.

Where do video games fit into the picture? Will they show the typical curve—a rise in popularity, followed by an abrupt decline? Or will their fate be more like that of television or football, both of which came and stayed? To answer this question, one might analyze the kinds of cultural phenomena that have survived and the kinds that have not. One might develop a set of features that characterize the survivors from nonsurvivors. Perhaps, for example, a feature like “complexity” might apply more to the items that survived than those that didn't. For example, football and television are complex phenomena, whereas fads—hula hoops, miniskirts, and goldfish swallowing,

for example—are limited in how complex they could ever become

But another feature is perhaps the most important of all Unlike hula hoops and miniskirts, video games are intimately linked to computer technology We'll consider this linkage in greater detail in chapter 6 For the moment, let us note that video games have the capability of rapid change and adaptation, paralleling the concomitant changes in the computer and electronic industries People won't have a chance to get bored with video games, therefore, so they're probably here to stay, at least for the foreseeable future They may not remain in precisely their current form, but rather they are likely to evolve as new developments in the computer/electronics industries emerge For example, Atari has already gone into a joint venture with a film company hoping to exploit the film company's genius for special effects in video game arcades across the nation

ENTERTAINMENT

The most radical shift in entertainment and leisure has been propelled by the burgeoning electronics industry, indeed, electronics has provided us with a totally new form of mass culture Before the electronic revolution of the early 1900s, people entertained themselves with plays, chamber music, conversation, books, and parlor games But electricity brought with it novel entertainment media such as radio, television, and communications satellites With these new devices, entertainment moved into the domain of mass phenomena, and many more people were able to participate in concerts, sports events, and comedy hours And now, also associated with the electronic media, we have video games to supply us with a new form of entertainment It is estimated that the number of game consoles already installed in US homes in 1982 has reached 14

million, with game cartridge shipments in 1982 alone reaching an estimated 75 million⁶

Video games, like many other forms of entertainment, seem to provide a source of stimulation For many people they break up the boredom and provide a temporary escape from the problems of the everyday world

Video Games as Models for Behavior

Should video games be compared to those other omnipresent visual media, movies and television? An important characteristic of TV and movies is that people model their behavior on what they see, and modeling behavior on what occurs in TV and movies has both good and bad consequences From TV and movies, people learn socially approved behavior such as rescuing a person in distress or walking away from someone who is trying to pick a fight But it's argued that TV and movies more often teach negative behavior that works to the detriment of society The last few years have seen controversy and now an acceptance of the unwelcome possibility that antisocial behavior, such as violence, might be accelerated by exposure to such events on TV and film Might the same be true for video games? Do video games "teach" us violence?

"Hey, Doug, take a look "

With these words twenty-one-year-old Mark Wentink tried to alert his friend, Doug Ilgenfritz, to an attractive woman who was walking nearby But this seemingly innocent act initiated

⁶M F Mansfield, "The Big Bang Marketing of Home Videogames," *Advertising Age*, 30 August 1982

iated disaster The woman's boyfriend was also walking nearby, and he made it clear that he didn't like what he had heard

"You want trouble with me?" the boyfriend asked

"No Why? What did we do to you?" Mark replied

"You want trouble, you got trouble," said the boyfriend as he drew a gun from his belt Two other boys yelled something from a nearby car And for this minor meddling, Mark and Doug ended up shot and killed

The participants in this tragedy had just been to the Factoria Cinema in Seattle where they had seen a double feature of *The Warriors* and *Fighting Back* Moments after walking out of the theater, the trouble began *The Warriors* has been the subject of considerable controversy because of its alleged glorification of street-gang violence Critics say this has led to "copycat violence" after showings in some cities While not quite as controversial, *Fighting Back* is also decidedly violent⁷

Was there any relation between the viewing of these violent films and the ensuing tragedy? Although we can never be sure in any individual case, a substantial body of evidence indicates that viewing excessive violence on the screen is associated with aggression and violent behavior among children and teenagers⁸ This evidence—which deals specifically with television but which is also applicable to movies—has been summarized in a recent report published by the National Institute of Mental Health (NIMH)⁹ In one study involving more than seven hundred children, the total amount of TV viewing was correlated with conflict with parents and with fighting and delin-

⁷T Guillen, "Shots, 2 Men Dead," *Seattle Times*, 25 May 1982

⁸R Reinhold, "U S Study Ties Youthful Behavior to TV Violence," *New York Times*, 6 May 1982

⁹D Pearl, ed, *Television and Behavior 10 Years of Scientific Progress and Implications for the Eighties* (Washington, D C Government Printing Office, 1982)

quency Similarly, another study of three- and four-year-olds at a day-care center showed heavy viewing of violent programs to be correlated with unwarranted aggression during play

Various theories have been advanced to account for the purported link between seeing violence on TV or in films and actually being violent Some theories, for example, attribute the link to "observational learning" According to this idea, we learn violent behavior from watching television in much the same way that we learn social skills from watching our parents, brothers, sisters, and friends Other theories posit that violent television causes a "change in attitude" Here the idea is that children who see violence on the screen become more suspicious and more prone to view the world as a place steeped in evil, ill will, and general malaise Still other theories posit that viewing violence causes increases in physiological arousal, which then mediates future violent behavior Finally, there is the "justification" hypothesis: watching violence on TV provides the justification, and therefore the impetus, for carrying out aggressive behavior in people who already have a violent nature

The NIMH report clearly reflects the government's low opinion of television Calling it a "beguiling force," the report identifies TV as a major socializing agent of American children The potential is there to educate people, to teach them good nutritional and health habits, and to improve family relations But sadly, say the critics, this potential has gone largely unrealized

What analogies can we draw between TV and video games? At least one well-known psychologist, Philip Zimbardo, has worried about the social effects of video game violence, pointing out that " . . . the video games that are proving so addictive to young people may not only be socially

isolating but may actually encourage violence between people"¹⁰ Another eminent psychologist, Carl Rogers, worries that the popular video games of missiles and satellites falling on cities constitute a trivialization of the horror of nuclear war. He watched members of a family playing such a game the skylines of cities were on the lower edge of the screen and missiles kept falling from the top of the screen. The player's goal was to stop them in midair and explode them, but often a missile slipped by, prompting a player's family member to remark, "Oops, there goes your city!" For Rogers, "We are making nuclear war thinkable by treating it as though it were just a game"¹¹

For his part, psychologist Zimbardo, who seems to agree with Rogers's major premise, goes on to say that the games could be easily reprogrammed to promote cooperative play among several players—to focus on rescue operations, say, instead of destruction.

As a matter of fact, some of the games *are* beginning to focus on rescue instead of on destruction. The best known of this new genre is *Donkey Kong*, the video version of the film classic *King Kong*. The villain in this game is a big brown gorilla that grabs a young woman and climbs a ladder to the top of a partially completed building. The gorilla then rolls barrels down at a courageous carpenter, Mario, who is attempting to save the woman. Mario makes his way up the various levels of the building's framework by running up ramps, leaping over obstacles, climbing ladders, and jumping on moving elevators. About the only thing Mario can't do is fly. There are various prizes that Mario can win along the way—a telephone, an

¹⁰P. Zimbardo, "The State of the Science," *Psychology Today* 16 (May 1982): 59.

¹¹C. R. Rogers, "Nuclear War: A Personal Response," *APA Monitor* 13 (August 1982): 6.

umbrella, a lunch pail, and a birthday cake. But the ultimate prize is the rescue of the maiden in distress and the reward of a free game.

Another popular "saving-people game" is *Frogger*. In *Frogger*, you are a frog. Your job is to cross a heavily traveled highway, a thin strip of land, and a densely populated river. You've got to avoid getting hit by a car, running into snakes, missing logs, and drowning in the river. You also have to watch out for crocodiles. But what really complicates your life is a very appealing Lady Frog who, once you marry, is worth a great deal to you.

Despite the popularity of *Donkey Kong*, *Frogger*, and their ilk, however, Zimbardo's worries are well founded; many of the games do focus on death and destruction. These violent games may be roughly subdivided into those involving violence toward "aliens" and those involving violence toward human beings. In the "kill aliens" category we find, for example, *Defender*, *Galaxian*, and *Space Invaders*.¹² In each of these games, you are pitted against an invasion of alien beings who themselves are never really seen; their presence is for the most part represented by their space vehicles. Your job is to destroy them, lest you be destroyed.

At least one of the "kill alien" games, *Ripoff*, has a positive side in that it encourages cooperation between two (human) players. In *Ripoff*, the goal is to keep alien vehicles from stealing your small, but very valuable, fuel canisters. Points are amassed for killing the aliens, and the game can be played with either one or two players. Almost all video games can in fact be played with either one or two players, however, most of these games are designed so that players take turns playing.

¹²Another popular game, *Asteroids*, involves killing aliens only to a minor degree—most of the effort in the game is directed at the destruction of and defense against nonliving rocks of varying shapes and sizes.

solitary games *Ripoff* is quite different in that the two players play simultaneously, in cooperation with each other against the aliens. The game is clearly better with two people than with one person, for two players can play more than twice as long and amass more than twice as many points as can one person playing alone. The reason for this two-person advantage is that very efficient two-person strategies can be devised; for instance, the two players can arrange their guns back to back and keep the aliens at bay almost indefinitely. We talked to Rob, one of our graduate students, who used to be an aficionado of this game until his partner moved to another city. Rob spoke quite movingly of the camaraderie he and his partner felt as they defended each other against the aliens. Perhaps such a fantasy killing can do some good if it promotes friendship and cooperation.

Despite *E.T.*, the idea of defending ourselves against aliens may well be so deeply engrained in our collective psyche that it's futile even to worry about it. Moreover, the alien fantasy is likely to remain nothing more than fantasy—there is no reason to expect that *real* aliens will be knocking on our doors in the foreseeable future.

Much more worrisome in terms of their potentially immediate effects on our culture are the "kill people games." In *Death Race*, for example, you control a white car on the screen with which you relentlessly try to run over little human beings who are desperately and pathetically trying to get out of your way. In *Shark Attack* four divers are pursued by a shark. The player is the shark, not the divers. Soon after the bloody destruction of two major ships during the 1982 war between Britain and Argentina, a new video game materialized in Britain that involved little Argentine airplanes that tried to shoot down little British ships. The manufacturers, to their credit, did withdraw

this game following an appeal to their patriotism (and their good taste), but many found it shocking that the game had appeared to begin with. These, and other games, are clearly full of violence, and violence specifically aimed at human beings. One can't help but wonder what lessons are being inadvertently, yet inevitably, learned by those who play them.

At this time, relevant research is yet to be done—we simply don't know whether excessive violence in video games is associated with aggressive and violent behavior among people. Some researchers take the optimistic view that video games are sufficiently fantasylike—detached from actual reality—that, unlike more realistic and plausible TV shows and films, they won't lead to modeling of violent behavior. Berkeley anthropologist David Surrey is one of these optimists. He quotes young arcade players on the topic: "Even though I'm shooting, it's not violent," says one *Galaga* player. "It's the challenge of beating the objects on the screen." Another of Surrey's interviewees is more explicit. In response to the question "Are you killing aliens?" he replies, "I just play it for the skill. It's like a sport. Like playing basketball. I could be wiping out chairs, doesn't have to be aliens. It could be television sets, as long as it moves."

Despite these sanguine observations, however, the question of whether the games promote violence is still open. And there is another broader question: What attitudes in general are these games teaching us about life on Earth? Again, the relevant research hasn't yet been done regarding video games. However, a good deal of research *has* been done with TV. Let's look at one recent study.

In studying the effects of TV on society, social scientists have moved beyond the link between violence on the tube and crime in the streets. University of Pennsylvania researcher

George Gerbner¹³ has taken up a much deeper question. His interest is in how television conditions us to think—about women, about minorities, about the elderly, and about other social groups. Gerbner's study has led him to an ominous conclusion: heavy watchers of television are getting a grossly distorted picture of reality.

In his Pennsylvania study, people who watched more than four hours of TV a day (heavy viewers) were compared to those who watched less than two hours a day (light viewers). The two groups were found to have very different conceptions of the real world. For example, on prime-time television, most of the characters are male. Women are portrayed as weak and passive, deriving their influence only from their connection to powerful men. Usually they are lovers or mothers. As married mothers, they rarely work outside the home. Yet in the real world, more than 50 percent of married women with children work outside the home. Heavy TV viewers are more likely to think that most married mothers stay home all day, in accord with the image that is depicted on TV. Their attitudes about women are more stereotypical and sexist. For example, they are more likely than light viewers to believe that women belong in the home and that the running of the country should be done by men.

The elderly are a second group for which television's distorted depictions reinforce negative stereotypes. On television they appear only rarely, and when they do appear, they are cast as silly, helpless, stubborn, and sexually inactive. Heavy viewers tend to believe that these negative characteristics are generally true of older people.

Like television, video games are beguiling. They have the

¹³G. Gerbner et al., "Charting the Mainstream: Television's Contributions to Political Orientations," *Journal of Communication* 32, no. 2 (1982): 100-127. Gerbner's work is also described in H. F. Waters, "Life According to TV," *Newsweek*, 6 December 1982, pp. 136, 137, 140, 140b.

potential for being a major socializing agent of American children. But in addition to promoting violence and negative attitudes, they could, by the same token, be used to educate, promote health, and teach other values that are mostly considered to be good. The issues posed by these remarks lead us naturally to the question of what it is that people learn from the screen and how the games might be used in more constructive ways. We'll consider this issue in the next chapter.

Who Plays Video Games?

As part of his exploration of the video game world, David Surrey observed who walked into the arcades. His findings: the arcades attract a wide variety of customers. To give the flavor of this variety, he described in some detail the twenty-four-hour weekday sequence likely to be found in an arcade in New York City or Philadelphia. From midnight to dawn, the crowd is virtually all male, with players being mostly in their early twenties. From 7 to 9 A.M., the "Suits"—businessmen in their early thirties—arrive for a quick game before work. They too are mostly males. From 9 to noon, more informally dressed persons arrive—again mostly male. From noon to 2 P.M., the Suits return for a lunch break. Not until after 2 do a noticeable number of teenage females arrive—but, Surrey notes, they are often relegated to the cheerleader role.

The arcades may be attracting a wide variety of people, but most of them are males. In fact, three social scientists recently described the video arcade as a "den of teenage male culture."¹⁴ In an informal survey conducted on busy Saturdays in

¹⁴S. Kiesler, L. Sproull, and J. Eccles, "Second Class Citizens?" *Psychology Today* 17 (March 1983): 43.

a suburban Pittsburgh shopping mall, the video arcades were found to be populated overwhelmingly by boys. Out of approximately 175 individuals who were counted, only 30 were girls. While a few groups of girls played together, most girls were with boys, and even then their main role was to admire the performance of their boyfriends—the cheerleader role noted by Surrey. Not once did the Pittsburgh researchers see a girl playing alone.

These observations were reinforced by a recent survey in Minneapolis.¹⁵ After surveying 2,000 video game players in several age groups, it was concluded that heavy players (those who played at least once a week) were mostly teenage males.

What are the consequences of the den of male culture, both for the men who populate the arcades and for the women who do not? If video games have the potential for being a major socializing agent of American culture, and this potential is realized, then boys and girls may be socialized very differently. Boys may model themselves after the video characters while girls, who lack equivalent exposure, may not. However, a more troubling possible consequence revolves around the computer revolution. According to the Pittsburgh study, many children receive their initiation into the world of computers by playing video games in the arcades or at home. A majority of children who have home computers, in fact, use them to play games, along with other activities. The games, then, provide the first taste of the computer and thus serve as a first step into the computer world. Since computer literacy is becoming increasingly essential in most jobs, children who are exposed to computers early in life acquire an advantage over those who are not. The boys who outnumber girls in the arcades will be boys who outnumber girls in the adult world of computers. According to

¹⁵"Who Plays Video Games? You'd Be Surprised," *USA Today*, 24 March 1983.

the Pittsburgh researchers, this bias may lead to a gap in competence and confidence between boys and girls and will undoubtedly result in the girls of today becoming "second-class citizens" in our computer society. Video game companies are currently spending countless hours planning ways of gathering such neglected players as very young children, girls, and mothers into the fold.¹⁶ Of course, the companies have their own economic reasons for this strategy. But, assuming that the companies succeed, a potentially grave social split may be averted.

Video Offshoots

Like television, video games seem to be here to stay, and they will undoubtedly spawn changes in our society and in our culture. We've already discussed some of the important ones—the potential for social isolation and for modeling behavior are examples. But culture is determined by many minor influences as well as by a few major ones, and video games have contributed to various minor facets of life as well. Here are some that have recently come to light.

One company has announced that it's now marketing a new line of "adults only" games, video analogues to pornographic movies. The characters in these games must traverse obstacle courses in order to achieve various salacious rewards. The long-term effects of these games aren't really clear, but the generally unpredictable nature of video games may engender new views of and attitudes toward sex. Public outrage toward these games seems to be more pronounced than it is toward more standard

¹⁶P. Nulty, "Why the Craze Won't Quit," *Fortune Magazine*, 15 November 1982, p. 114.

instruments of pornography such as "adult bookstores" and X-rated movies. In the city of Seattle, for example, there has been a long truce between its X-rated movie district and its general populace. But with the impending arrival of X-rated video games, boycotts were organized against the computer stores that had announced plans to market the games.

All this hue and cry might seem odd, considering that pornographic movies exploit and demean actual persons (the actors) whereas pornographic video games consist only of cartoon fantasies. We talked to some people involved to one degree or another in the woman's movement, and they provided us with some perspective on the issue of why the pornographic games represented such a threat. First, these women pointed out, pornographic movies are passive. Pornographic video games, in contrast, are, like all video games, active. The player is in control, playing the video games is seen as providing some kind of "practice" for engaging in the demeaning pornographic acts themselves. Second, the potential audience for video games is seen as growing at a very rapid clip, which leads to visions of the pornographic games appearing in everyone's living room within the next few years. Finally—and perhaps most important—video games are generally associated with young kids. This association produces a particularly strong reaction when pornography seems about to enter the picture.

One rather surprising spinoff of the video game craze is a new kind of pain, which has been variously termed "Space Invaders' Revenge" and "Pac-Man Elbow." Several rheumatologists have found that repeated video game button-bashing, paddle-twisting, and joystick pushing can cause skin, joint, and muscle problems. In one survey of 142 arcade players, 65 percent complained of calluses, blisters, or sore tendons. Other players have complained of numbness of the fingers, hands, and elbows. Georgia rheumatologist Gary Myerson speculates

that the problems could be alleviated if players wore gloves to ease friction. However, it's unlikely that the players will actually do this. Most have simply adopted the American sports ethic: "if you don't hurt, then you really haven't worked at it." Somewhat more seriously, the October 1982 issue of *Video Games* magazine reported on the death of one video gamer. He was eighteen years old, likable, apparently healthy, and a student. He was good at games and especially at *Berzerk*. He had gone to an arcade with a friend. Within fifteen minutes, he had written his initials twice in the "Top Ten." Then, bored with the game, he turned to play another one. He dropped a single quarter into the machine and collapsed, dead of a heart attack.

The intrusion of video games into health-related issues has not been restricted to physical maladies. In September 1982 the *Journal of the American Medical Association* reported a curious new psychiatric disorder that the authors termed "Space Invaders Obsession."¹⁷ The victims of this disorder were men about to be married, and it took the form of a fourfold (or greater) increase in the playing of *Space Invaders* in the few weeks preceding the marriage. One man even insisted that the honeymoon be postponed for a few hours so that he could get in a few more games. The authors, researchers at the Duke University medical center, asserted that the principal goal of the game—defending a home base against aliens—took on a special symbolic significance in the face of an impending marriage. (It was also reported that, for whatever reason, game playing dropped dramatically following marriage.)

Reports of video game-related crime are beginning to appear. A recent Associated Press story, for example, tells of a thirteen-year-old boy in Des Moines, Iowa, who resorted to

¹⁷D. R. Ross, D. H. Finestone, G. K. Lavin, letter, *Journal of American Medical Association* 248 (Sept. 1982): 1177.

constant burglary in order to support his Pac-Man habit. The detective covering the case reported that "he started about 9 in the morning, committed the burglaries, went to the bank [for quarters] and then played Pac-Man until he had to go home." In *Invasion of the Space Invaders*, British author Martin Amis notes other similar cases in the normally low-crime country of Japan, a twelve-year-old boy held up a bank with a shotgun, demanding only coins—no bills. Cases of children becoming prostitutes specifically to earn money for video games have cropped up in several countries.

David Surrey, in his observations of video arcade behavior, notes that the arcades are the perfect location for pickpockets. Surrey quotes one source: "In my business, you go where the marks are and this is where it's at. They're into zapping these machines. This may seem strange to you, but their wallets say to me, 'it's a drag in here. Take me home.' Hey, and I'm doing a favor, too. They waste their time and money here, their old lady she gets mad. So I take their wallet once and maybe they won't come in here so much."

The publishing world has also experienced the video game phenomenon. Scores of books have appeared on video games and how to beat them, daily newspapers have started to run syndicated video game columns, and several video game magazines have been created. The magazines not only provide tips on how to play, and stories of celebration, but they also crusade against those who try to restrict video games. The question of video regulation has cropped up all over the world. Just recently, video game parlors were banned in Singapore because they allegedly cause harm to children. "We are aware of the undesirable influence these centers have on our young people," said the city's cultural minister. "Many have become addicted and waste considerable time and money on these video games."

Will the games enter high culture? The DeCordova Mu-

seum near Boston recently held an exhibit entitled "From Pong to Pac-Man," accompanying the work of Harold Cohen, a British abstract painter who has recently turned to computer-generated art. The exhibit was in two parts. The first included a selection of video games that, according to the brochure,¹⁸

will be interpreted as "folk art" with their own unique, vernacular language. The evolution from simple task-oriented games, to games with a proscribed story line in which the player becomes protagonist, will be demonstrated with a selection of machines dating from 1972 to the present. In evidence will be the ever increasing elaboration and realism of imagery which has developed in this ubiquitous form of "participatory television."

The second part of the exhibit included works of other contemporary artists.

whose imagery is similar to that which is usually associated with video games. The screen-scape, characterized by a blank background and miniature figures acting out a mute, but violent drama are epitomized by the paintings of Nicholas Africano. The pattern-scape, reminiscent of video games like Pac-Man, in which figures are placed in a landscape of strong geometric regularity, is demonstrated by the work of Roger Brown. William Conlon's paintings exemplify the line-scape or "physics of vision," in which environments are created from perspectival lines. "From Pong to Pac-Man" will explore related visual identities in an attempt to show how the commercial vernacular languages of our society influence the fine arts.

¹⁸Quoted by permission of the DeCordova Museum