
Reasoning by Use of Induction and Deduction

Sometimes you can best explain a subject by asking readers to follow the line of reasoning you use to understand it: either inductive reasoning or deductive reasoning. Induction is the process by which we accumulate evidence until, at some point, we can make the “inductive leap” and thus reach a useful generalization. The science laboratory employs this technique: hundreds of tests and experiments and analyses may be required before the scientist will generalize, for instance, that a disease is caused by a certain virus. It is also one of the primary techniques of the prosecuting attorney who presents pieces of inductive evidence, asking the jury to make the inductive leap and conclude that the accused did indeed kill the victim.

Whereas induction is the method of reaching a potentially useful generalization (for example, people attending meetings after lunch are invariably less attentive than those at morning meetings), deduction is the method of using such a generality, now accepted as a fact (for example, because we need an attentive audience, we had better schedule this meeting at 10:30 A.M. rather than 1:00 P.M.). Working from a generalization already formulated—by ourselves, by someone else, or by tradition—we may deduce that a specific thing or circumstance that fits into the generality will act the same. Hence, if we are convinced that orange-colored food tastes bad, we will be reluctant to try pumpkin pie.

A personnel manager may have discovered over the years that electrical engineering majors from Central College are invariably well trained in their field. His induction may have been based on the evidence of observations, records, and opinions of people at his company; and, perhaps without realizing it, he has made the usable generalization about the training of Central College electrical engineering majors. Later, when he has an application from Nancy Ortega, a graduate of Central College, his deductive process will probably work as follows: Central College turns out well-trained electrical engineering majors; Ortega was trained at Central; therefore, Ortega must be well trained. Here he has used a generalization for a specific case.

In written form, you can use inductive reasoning to help readers explore the details of a subject and arrive at the same conclusion or interpretation you do, as in the following paragraph.

Roaming the site, I can't help noticing that when men start cooking, the hardware gets complicated. Custom-built cookers – massive contraptions of cast iron and stainless steel – may cost \$15,000 or more; they incorporate the team's barbecue philosophy. “We burn straight hickory under a baffle,” Jim Garts, coleader of the Hogaholics, points out as he gingerly opens a scorching firebox that vents smoke across a water tray beneath a 4-by-8-foot grill. It's built on a trailer the size of a mobile home. Other cookers have been fashioned from a marine diesel engine; from a '76 [Nissan], with grilling racks instead of front seats, a chimney above the dash, and coals under the hood; and as a 15-foot version of Elvis Presley's guitar (by the Graceland Love Me Tenderloins). It's awesome ironmongery.

–Daniel Cohen,
“Cooking-Off for Fame and Fortune”

You can use deductive reasoning to help readers use a generalization as a way of understanding a complex situation or complicated evidence and details, as in this paragraph.

It is an everyday fact of life that competitors producing similar products claim that their own goods or services are better than those of their rivals. Every product advertised—from pain relievers to fried chicken—is claimed to be better than its competitor's. If all these companies sued for libel, the courts would be so overloaded with cases that they would grind to a halt. For years courts dismissed criticisms of businesses, products, and performances as expressions of opinion. When a restaurant owner sued a guidebook to New York restaurants for giving his establishment a bad review, he won a \$20,000 verdict in compensatory damages and \$5 in punitive damages. But this was overturned by the court of appeals. The court held that, with the exception of one item, the allegedly libelous statements were expressions of opinion, not fact. Among these statements were that the “dumplings, on our visit, resembled bad ravioli...chicken with chili was rubbery and the rice...totally insipid...” Obviously, it would be impossible to prove the nature of the food served at that particular meal. What is tender to one palate may be rubbery to another. The one misstatement of fact, that the Peking duck was served in one dish instead of three, was in my opinion, a minor and insignificant part of the entire review. Had the review of the restaurant been considered as a whole..., this small misstatement of fact would have been treated as *de minimis*. That is a well established doctrine requiring that minor matters not be considered by the courts. In this case, the court held that the restaurant was a public figure and had failed to prove actual malice.

—Lois G. Forer,
A Chilling Effect: The Mounting
Threat of Libel and Invasion of Privacy Actions
to the First Amendment

WHY USE INDUCTION AND DEDUCTION?

One useful way to think of induction and deduction is as a way of arriving at a generalization (induction) and of applying a generalization as an explanatory strategy (deduction). Once you start thinking of the patterns this way, you can develop questions to help you decide when to employ them in your writing. You might ask, for example, “Why should I lead readers through the process of arriving at a generalization when I could simply announce it at the beginning of an essay and then provide examples, comparisons, and other kinds of evidence to explain the generalization and show how reasonable it is?” One answer is that you employ deduction whenever the process of arriving at a generalization is as important as the conclusion itself. For example, in explaining a particular kind of childhood behavior, you may also wish to model for readers a way of drawing conclusions about such behavior.

Another occasion when induction is an appropriate pattern of explanation is when the evidence leading to your conclusion is quite complicated or your conclusion is unusual or surprising. In such cases, readers may be more likely to understand and agree with your conclusion if you lead them through the process of reasoning. Inductive reasoning is also appropriate when you want to create tension or drama by building toward your conclusion or when you want to arrive at it by considering and rejecting other explanations until you arrive at a satisfactory one.

Before employing deduction as an explanatory strategy, you might ask, “How will my readers benefit if I use deductive reasoning to guide my explanation?” The importance of deductive reasoning as an explanatory pattern lies in the careful logic (and hence reliability) it can lend to conclusions. Put in simplified form (which, in writing, it seldom is), the deductive process is also called a “syllogism”—with the beginning generality known as the “major premise” and the specific that fits into the generality known as the “minor premise.” For example:

Major premise—Orange-colored food is not fit to eat.

Minor premise—Pumpkin pie is orange-colored.

Conclusion—Pumpkin pie is not fit to eat.

As this example makes clear, however, deductive reasoning can be only as reliable as the original generalizations that were used as deductive premises. If the generalizations themselves were based on flimsy or insufficient evidence, any future deduction using them is likely to be erroneous.

Working together, induction and deduction can be good strategies for exploring an unfamiliar or complicated topic. Inductive reasoning can suggest a generalization about the topic; deductive reasoning can use the generalization to explore and explain whatever details, applications, and consequences call for understanding.

CHOOSING A STRATEGY

The organization of writing employing induction, deduction, or both generally parallels the process of reasoning. The following example may make this clear. Suppose that after a careful process of reasoning, you concluded that your family's dog treats you and other family members as if they were part of her own dog pack. This would be a somewhat startling conclusion for many readers, so to help make your explanation convincing, you might wish to follow an inductive-deductive pattern.

Tentative Thesis (to be presented in full at the end of the essay): My family's dog treats my parents and my siblings as if we were all members of the same pack of dogs.

Inductive Explanation: Dogs behave in ways that surprise humans.

1. They often try to sleep with their owners or members of the family. Dogs in packs like to sleep together.
2. Dogs often like to carry around bits of smelly clothing (ugh!) from their owners or family members. Dogs in packs recognize and relate to each other through scent.
3. Dogs choose one family member as most important and others as less so. Dog packs are strictly hierarchical; a dog is content when he or she can recognize the "Alpha" dog and his or her own place in the pack.
- 4, 5, 6....

Inductive Generalization: Dogs relate to humans in ways similar to the ways they relate to other dogs in a pack.

Deductive Explanation: Much of my dog's behavior can be explained by considering my family as her pack.

1. Every time one of the family sits down, our female beagle comes over and falls asleep on one of our feet. She's "cuddling" with us and feeling comfortable when she is literally "in touch" with her pack.
2. I have lots of single socks; the dog has the other ones, which she chews, then "lovingly" drapes over her head or muzzle when she falls asleep in her bed. My dog isn't trying to be a pest or to cause me trouble. She's "complimenting" me by letting me know that my scent is an important element in her life.
3. My mother says that even though she feeds and walks the dog, our beagle still thinks my father and my brothers are the most important people in the house. Beagles aren't politically correct; the lead dog is still generally a male, even if the "dog" walks on two legs.
- 4, 5, 6....

One particularly effective and familiar pattern of induction in writing is the "process of elimination." If it can be shown, for instance, that "A" does not have the strength to swing the murder weapon, that "B" was in a drunken sleep at the time of the crime, and that "C" had recently become blind and could not have found her way to the boathouse, then we may be ready for the inductive leap—that the foul deed must have been committed by "X," the only other person on the island. This organization can help you explain to readers why a particular explanation or interpretation of a subject is the only reasonable one.

Details of the subject to be explained

Explanation 1

Strengths and weaknesses

Explanation 2

Strengths and weaknesses

Explanation 3

Strengths and weaknesses
4, 5....

Deductive Generalization

This explanation is the only one with significant strengths and few significant weaknesses. It is probably the most accurate one.

DEVELOPING INDUCTION AND DEDUCTION

To develop an explanation using induction and deduction, you need to pay attention to the logic of your reasoning. These two faults are common in induction: (1) the use of flimsy evidence—mere opinion, hearsay, or analogy, none of which can support a valid generalization—instead of verified facts or opinions of reliable authorities; and (2) the use of too little evidence, leading to a premature inductive leap. The amount of evidence needed in any situation depends, of course, on purpose and audience. The success of two Central College graduates might be enough to convince some careless personnel director that all Central College electronics graduates would be good employees, but two laboratory tests would not convince medical researchers that they had learned anything worthwhile about a disease-causing virus.

Deductive reasoning can fall victim to questionable premises or any of a number of flaws in logic (see Chapter 13, p. 568). Induction and deduction are highly logical processes, and any trace of weakness can seriously undermine an exposition that depends on their reasonableness. Although no induction or deduction ever reaches absolute, 100 percent certainty, we should try to get from these methods as high a degree of probability as possible.

Student Essay

In the following essay, Sheilagh Brady shows how an essay can use induction and deduction to organize a complicated explanation in a way readers will consider clear and easy to understand. She takes readers through the history of MADD, leading up to some of its key positions, then explores the positions in detail.

Mad About MADD

Sheilagh Brady

On May 3, 1980, Cari Lightner was walking through a suburban neighborhood on her way to a church carnival in Fair Oaks, California, when she was killed by a hit-and-run drunk driver. The driver was Clarence Busch, 46 years old with four prior arrests for drunk driving. Busch had just been released on bail for a hit-and-run drunk-driving charge a week before.

Cari's mother, Candy Lightner, was 33 at the time, a divorced mother of two other children working as a real estate agent. She was told by two police officers investigating the accident that Busch would probably receive little jail time, if any, because "That's the way the system works" (Lightner and Hathaway 224).

Faced with these circumstances, many of us might have concluded that the only possible responses were despair and frustrated rage. Candy Lightner reached another conclusion. Mulling over the police officers' words during dinner the same night, Lightner conceived of the organization that eventually became MADD, Mothers Against Drunk Driving. She felt the need to do something to take away her pain. MADD became a way for her to use her anger and to come to terms with the death of her daughter. For the next five years, Lightner devoted her time and effort to the creation of MADD.

Lightner moved to Dallas, Texas, the eventual headquarters of MADD, to begin working on organizing the new group. In March 1983, NBC aired a documentary, "Mothers Against Drunk Driving: The Candy Lightner Story." According to James B. Jacobs, MADD chapters doubled across the United States by 1985, and in the same year Time magazine reported that there were 320 chapters nationwide, and 600,000 volunteers and donors (Otto 41).

MADD's response to drunk driving has been to emphasize jail sentences and legislation. MADD members get angry when people feel "that a killer drunk driver deserves a lesser penalty than other homicidal offenders" (Jacobs). MADD has been successful in focusing public attention on the problems associated with drinking and driving and mobilizing legal changes to create stiffer penalties for drunk driving. MADD aims to have these stiffer penalties made mandatory and plea bargaining abolished (Voas and Lacey 126–27).

Not only has MADD focused public attention but it has also had considerable effect on local, state, and federal governments. In 1988, S. Ungerleider and S. A. Bloch did an evaluation of MADD that has been summarized as concluding that MADD was "more successful in state legislatures where a large number of laws were enacted in an effort to produce more severe sanctions for the drunk driving offense" (qtd. in Voas and Lacey 137).

Yet according to Dave Russel, a member of the Rhode Island Chapter of MADD, the past few years have been difficult. During the 1980s legislation was passed quickly because of the sudden public support through pressure groups concerned about drinking and driving. Since then, the progress of drunk-driving legislation has slowed considerably. Russel says that the number of deaths per year has steadily decreased since 1980 but that alcohol related accidents still take close to 19,000 lives each year. As a response to this situation, MADD chapters nationally have concluded that there is still a need for more drunk-driving legislation, even if legislators do not see it.

Having reached this conclusion, MADD chapters nationwide have decided to submit three different bills annually to their state legislatures. Some states have turned these bills into laws, but many have not. Just what are these MADD chapters proposing? Are the laws they want enacted reasonable or unreasonable?

One bill aims to reduce the BAC (blood alcohol content) level from .10 to .08 as the legal limit of intoxication. In 1988 in a report focusing on BAC levels, researchers Moskowitz and Robinson found that although theoretically impairment begins with the first drink, significant impairment occurs in most people at .05 BAC or lower. At the Surgeon General's Workshop, December 14–16, 1988, C. Everett Koop called for lowering the BAC limit in all states to .08, as did the National Highway Transportation Safety Administration in reports sent to the United States Congress. According to MADD's national office, lowering the BAC level to .09 will reduce drunk driving by making it more likely that drunk drivers will be caught, and also by acting to discourage driving under the influence. If research evidence and reliable authorities suggest reducing the BAC level from .10 to .08 will save lives, then most of us are likely to conclude that the legislative proposal seems reasonable.

Another bill is the ALR Bill or the Administrative License Revocation Bill. This law would eliminate the period between the arrest of a drunk driver and the hearing suspending the license. Right now, in many states, that period is supposed to be around 30 days but inevitably becomes much longer, a delay that allows the drunk driver to continue driving for that much longer legally under a valid license. The ALR would be a process that would allow the police officer to take the drunk driver's license if there is a refusal to take the breathalyzer test. In return, the driver would be given a temporary permit, good for ten to 15 days, following an appearance at a hearing. If the driver does not appear for the hearing or cannot provide reasonable evidence for refusing the test, the license is suspended. In the case of a "no show," the driver must appear later to answer to the charge against him or her, but what is important is that the license will have already been suspended.

The Administrative License Revocation was recommended by the Presidential Commission on Drunk Driving, which developed the National Commission Against Drunk Driving. According to several researchers, "Administrative revocation has widespread support among researchers, highway safety experts, and the public in general because it has been shown to be an effective administrative action that protects innocent drivers" in an experiment conducted in California, Washington, and Minnesota (Peck, Sadler, and Perrine). Most of us would probably conclude that ALR is a reasonable procedure, yet 17 states have not yet turned the ALR bill into a law.

Last, MADD chapters propose annually an Open Container Law requiring that open containers of alcohol not be allowed in the passenger compartments of vehicles. According to MADD's national chapter, it is fundamental to separate drinking and driving because this separation is essential to the public interest and to the public's understanding of the crisis created by drunk driving. MADD argues that banning open containers of alcoholic beverages in a vehicle is one way to make sure drivers do not start drinking while driving or to become even more intoxicated while driving. Moskowitz and Robinson, in Effects of Low Doses of Alcohol on Driving Skills, report that drinking while driving is dangerous because ingesting even a small amount of alcohol begins the impairment process. For most of us, the Open Container Law probably also seems quite reasonable.

Even though the bills proposed by MADD chapters are likely to seem reasonable to most people, many states have not turned them into laws. At the same time, the combination of alcohol and driving remains a problem. Nineteen thousand deaths per year may be lower than in previous years, but this is still too many avoidable tragedies. One appropriate response is for each of us to become involved in working for a solution. If MADD's three proposals seem reasonable to you, if they are not yet law in your state, and if you want these policies in place to protect you, your family, and your friends, call your local MADD chapter and ask what you can do to help.

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The Age of Beauty

In "The Age of Beauty," first published in the *New York Times Magazine*, Friday uses induction and deduction to explain a parallel process of personal discovery and change. Her effective use of the pattern illustrates its versatility.

I had stood, all eagerness and impatience, while my sister's old evening dress was pinned on me before that fateful dance at the yacht club. I didn't even know enough to look critically at the mirror and see that the strapless gown didn't suit me, especially after the dark brown velvet straps had been added to keep the dress up on my flat chest. I placed no value on looks. Having not had this rite of passage explained to me, I hadn't a clue that beauty was the prerequisite to adolescent stardom. Certainly, this new longing for boys had made me awkward in their presence; but I had noticed that they were awkward, too. Accustomed to being chosen first for any team of girls, I didn't question success that night, couldn't remember failure, so carefully had I buried nursery angers under trophies of recent accomplishments. I'm sure I was prepared to solve any hesitancy the boys might have in approaching us girls by taking the initiative myself. Assuming responsibility was who I was. In recent years my life had been a great adventure, in which there had been no comparisons made to my mother and sister. In my mind, they were boring in their tedious arguing over my sister's looks and her evenings with boys.

That night at the yacht club marked the end of childhood, the finish of that adventure story with me as heroine. In one momentous night I took it all in and made my concession speech to myself. I watched my friends, whose leader I had been for years, watched them happy in the arms of desirable boys, and I recognized what they had that I lacked; saw it so clearly that I can recreate the film today, frame by frame: they had a look I lacked that went beyond beauty. It wasn't curls, breasts, prettiness, but a quality of acquiescence: the agreeable offer to be led instead of to lead. My own face was too eager, too open, too sure of itself. I needed a mask. I needed a new face that belied the intelligent leader inside and portrayed the little girl, no, the tiny, helpless baby who hadn't been held enough in the first years of life and had been waiting all these years for boys now to care for her.

I stood in my horrible dress, shoulder blades pressing into the wall, watching my dear friends dance by in the arms of handsome boys, with a frozen, ghastly smile on my face, denying I needed to be rescued. Why, even the girl who couldn't hit a ball danced by. Though they all whispered for me to hide in the ladies' room, I stood my ground.

Miserable as I was, I recognized the work ahead: the girl I had invented, so full of words waiting to be spoken and skills to be mastered, she had to be pushed down like an ugly jack-in-the-box. No boy was going to take a package like me.

A part of me was filled with rage at having to abandon what I thought to be a fine person. But I had no voice for rage. I belonged to a family of women who wept, and by not weeping I had made myself different from my mother and sister. But that night I became a woman; I wept and wept after someone's father drove me home while the rest of my group went off to a late party with boys. I showed my grief but not my rage. I did what most women still do: I swallowed anger, choked on it. I bowed my head, in part to be shorter, but also, like a cornered cow, to signal I had given up.

By morning I had buried and mourned my 11-year-old self, the leader, the actress, the tree climber, and had become an ardent beauty student. From now on I would ape my beautiful friends, smile the group smile, walk the group walk and, what with hanging my head and bending my knees, approximate as best I could the group look.

I have a photograph of myself taken in our yard on what looks like The First Day of Adolescence. I am sitting in a white wicker chair, hunched forward, staring at the ground, hands tightly clasped in my lap, swathed in the loser's agony of defeat. I remember the box camera aimed at me and that awful skirt and sweater, which had been my sister's—as had the awful dress at the yacht club, fine for a beauty but oh, so wrong for the tomboy I had been.

Twenty years later, I would go through countless hours of physical therapy to realign my spine, which has never recovered from the bent-leg posture I mastered in learning the art of being less. Neither professional success, great friendships nor the love of men could recapture the self-confidence, the inner vision and, yes, the kindness of generosity I owned before I lost myself in the external mirrors of adolescence.

MEANINGS AND VALUES

1. In Paragraph 2, Friday says, "That night at the yacht club marked the end of childhood, the finish of that adventure story with me as the heroine." Explain the significance of that one evening. What did it symbolize for Friday? (See "Guide to Terms": Symbol.)
2. What does Friday mean when she says, "It wasn't curls, breast, prettiness, but a quality of acquiescence: the agreeable offer to be led instead of to lead" (Par. 2)? How is Friday defining the "role" of a successful woman from her adolescent perspective?
3. Why did Friday have to undergo physical therapy for her spine (Par. 8)? What is the significance of this reference as the conclusion of her essay?

EXPOSITORY TECHNIQUES

1. What inductive generalizations does the adolescent Friday make? Does the author still regard that generalization as valid? Why, or why not?
2. Throughout the essay, the author uses masculine imagery to describe her youthful self, for example "adventure story" (Par. 2), "the girl who couldn't hit a ball" (3), and "the loser's agony of defeat" (7). Why might she have used such masculine and athletic references?
3. What is the tone of Friday's essay? (Guide: Tone.) Is it successful in supporting the inductive pattern that she presents?

DICTION AND VOCABULARY

1. Look up any of the following words with which you may be unfamiliar: tedious (Par. 1); acquiescence (2); ardent (6); swathed (7).

READ TO WRITE

1. Collaborating: In a group, share stories from your adolescence that had a particular impact on the way that you defined yourself. Do group members share any similar experiences? Write a collaborative essay using one of those similar experiences as a basis for an inductive essay.

2. Considering Audience: Most women who read this essay would have some understanding of Friday's experiences. The image of the dress, the moving from "tomboy" to adolescent "girl," and the effort to "fit" are somewhat universal examples for young women. What images might be universal for men? Think of experiences that young boys have that mark their adolescence. Write an essay similar to Friday's looking at some adult male behaviors that may be outcomes of adolescent experiences. You may have to do some research in the form of interviews.

3. Developing an Essay: Think of something physical or emotional that is part of your adult character and that developed as a result of adolescent experiences. Write an essay incorporating an inductive generalization like Friday's to help your reader understand the impact of adolescence on your life.

(NOTE: Essays requiring development by means of INDUCTION and DEDUCTION are on p. 545 at the end of this chapter.)

Issues and Ideas

Digital Realities

- Maia Szalavitz, *A Virtual Life*
- J. C. Herz, *Superhero Sushi*

To some people, computers may be simply one more appliance whose effects on daily life seem to be minimal. However, the number of people who can avoid working on computers seems to be shrinking, just as computer influence seems to be growing. Computers, the software they run, and their many networked connections change the way we run our lives. They alter the time we need to spend at a task, the kind of tasks we can undertake, and our creative abilities. They alter our schedules, our places of work and play, and maybe even our friendships and personal relationships.

We can say that computers create new realities for us, digital realities. The essays that follow use inductive and deductive reasoning to explore these digital realities. Maia Szalavitz, in "A Virtual Life," considers her experiences as a computer user, sums them up, and then reviews her experiences to see if her perceptions and values have indeed changed as much as she suspects. J. C. Herz, in "Superhero Sushi," shows how cultures blend in remarkable ways once they are drawn into cyberspace. Both authors are a bit tentative in their conclusions because new digital realities may emerge in just a few years.

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A Virtual Life

In this essay from the *New York Times Magazine*, Szalavitz uses induction and deduction to explore digital reality and its consequences. Along the way, she compares the digital world to the “real” world, acknowledging the attractions of the electronic dimension.

After too long on the Net, even a phone call can be a shock. My boyfriend’s Liverpudlian accent suddenly becomes indecipherable after the clarity of his words on screen; a secretary’s clipped tonality seems more rejecting than I’d imagined it would be. Time itself becomes fluid—hours become minutes, and alternately seconds stretch into days. Weekends, once a highlight of my week, are now just two ordinary days.

For the last three years, since I stopped working as a producer for Charlie Rose, I have done much of my work as a telecommuter. I submit articles and edit them via E-mail and communicate with colleagues on Internet mailing lists. My boyfriend lives in England, so much of our relationship is also computer-mediated.

If I desired, I could stay inside for weeks without wanting anything. I can order food, and manage my money, love and work. In fact, at times I have spent as long as three weeks alone at home, going out only to get mail and buy newspapers and groceries. I watched most of the blizzard of ’96 on TV.

But after a while, life itself begins to feel unreal. I start to feel as though I’ve merged with my machines, taking data in, spitting them back out, just another node on the Net. Others on line report the same symptoms. We start to feel an aversion to outside forms of socializing. It’s like attending an A.A. meeting in a bar with everyone holding a half-sipped drink. We have become the Net naysayers’ worst nightmare.

What first seemed like a luxury, crawling from bed to computer, not worrying about hair, and clothes and face, has become an evasion, a lack of discipline. And once you start replacing real human contact with cyber-interaction, coming back out of the cave can be quite difficult.

I find myself shyer, more circumspect, more anxious. Or, conversely, when suddenly confronted with real live humans, I get manic, speak too much, interrupt. I constantly worry if I’m dressed appropriately, that perhaps I’ve actually forgotten to put on leggings and walked outside in the T-shirt and underwear I sleep and live in.

At times, I turn on the television and just leave it to chatter in the background, something that I’d never done previously. The voices of the programs soothe me, but then I’m jarred by the commercials. I find myself sucked in by soap operas, or compulsively needing to keep up with the latest news and the weather. *Dateline*, *Frontline*, *Nightline*, CNN, New York 1, every possible angle of every story over and over and over, even when they are of no possible use to me. Work moves from foreground to background. I decide to check my E-mail.

On line, I find myself attacking everyone in sight. I am irritable, and easily angered. I find everyone on my mailing list insensitive, believing that they’ve forgotten that there are people actually reading their invective. I don’t realize that I’m projecting until after I’ve been embarrassed by someone who politely points out that I’ve flamed her for agreeing with me.

When I’m in this state, I fight with my boyfriend as well, misinterpreting his intentions because of the lack of emotional cues given by our typed dialogue. The fight takes hours, because the system keeps crashing. I say a line, then he does, then crash! And yet we keep on, doggedly.

I’d never realized how important daily routine is: dressing for work, sleeping normal hours. I’d never thought I relied so much on co-workers for company. I began to understand why long-term unemployment can be so insidious, why life without an externally supported daily plan can lead to higher rates of substance abuse, crime, suicide.

To counteract my life, I forced myself back into the real world. I call people, set up social engagements with the few remaining friends who haven’t fled New York City. I try to at least get to the gym, so as to differentiate the weekend from the rest of my week. I arrange interviews for stories, doctor’s appointments—anything to get me out of the house and connected with others.

But sometimes, just one engagement is too much. I meet a friend and her ripple of laughter is intolerable—the hum of conversation in the restaurant, overwhelming. I make my excuses and flee. I re-enter my apartment and run to the computer as though it were a sanctuary.

I click on the modem, the once-grating sound of the connection now as pleasant as my favorite tune. I enter my password. The real world disappears.

MEANINGS AND VALUES

1. What is the inductive generalization the author arrives at after spending “too long on the Net” (Par. 1)? Where does she state it?
2. In which paragraphs does she apply this generalization in a deductive manner?
3. Explain the meaning of the following phrases: “just another node on the Net” (Par. 4); “I’ve flamed her for agreeing with me” (8); and “The fight takes hours, because the system keeps crashing” (9).

EXPOSITORY TECHNIQUES

1. How does the essay’s conclusion reinforce the inductive generalization arrived at earlier in the essay? What strategy does the writer employ to conclude the essay? (See “Guide to Terms”: Closings.)
2. What do the beginning sentences of Paragraphs 6–13 have in common in terms of wording or structure? (Guide: Syntax.) In what ways are these similarities related to the inductive generalization? Discuss how they help create coherence in the essay. (Guide: Coherence.)
3. Discuss the use of parallelism to provide emphasis in the sentences in Paragraphs 3 and 11. (Guide: Parallel Structure.)

DICTION AND VOCABULARY

1. Discuss the essay’s use of computer terminology and slang used by people familiar with computers. Does this add to or detract from most readers’ understanding of the essay? How would the essay be different if the terminology and slang were not used? (Guide: Colloquial Expressions.)
2. If you do not know the meaning of some of the following words, look them up in a dictionary: mediated (Par. 2); aversion (4); evasion, cyber (5); circumspect, manic (6); invective (8); doggedly (9); insidious (10); counteract (11).

READ TO WRITE

1. Collaborating: Freewrite about your computer experiences or about typical behaviors of computer users that you have observed. Compare your freewrite with other members of a group. As a team, focus on one or two particularly interesting areas, examples, or topics that you have in common. Develop these areas into passages that might be collected for a collaborative essay.
2. Considering Audience: Most readers have probably experienced the online environment to which Szalavitz refers in her essay. Most, therefore, would understand her references to the “virtual life.” List other mechanical/technical devices that have removed people from human contact in past generations. Choose one with which you are familiar and write an essay similar to Szalavitz’s, making an inductive generalization about the consequences of this other device.
3. Developing an Essay: Draw on Szalavitz’s comparisons of the digital and the physical world in order to develop further comparisons in an essay of your own.

(NOTE: Suggestions for essays requiring development by INDUCTION and DEDUCTION are on p. 545 at the end of this chapter.)

J. C. HERZ was a graduate student at Harvard University when she set out to explore the world of video games. Her reports on this virtual world have appeared in numerous magazines and in two books, *Surfing on the Internet (1995)* and *Joystick Nation: How Videogames Ate Our Quarters, Won Our Hearts, and Rewired Our Minds (1997)*.

Superhero Sushi

For J. C. Herz, induction and deduction serve to explain the complicated mixture of American and Japanese characteristics and cultures that appear in the figures of video game heroes. The essay is a detailed and sometimes disturbing (though entertaining) exploration of the worlds of virtual reality and their complex relationships to everyday life. This essay first appeared in *Joystick Nation*.

After walloping her opponent, *Tekken 2*'s heroine, Michelle Chang, swivels within the videogame arena and turns to face the camera, the viewer, the players. And it's a disconcerting moment, because she looks at you intelligently, and there are so many polygons in her face that she almost seems real, and because she is such a confusing mix of signals. She's a slender girl who beats up rippling hypermasculine bruisers. She's computer generated, yet more true-to-life than most of the silicon-enhanced, digitally retouched dreamgirls staring vacantly out from real world magazine racks. She's got an Asian name but ambiguous features—a Western nose, almond-shaped eyes. If you saw her on the street, you'd peg her as Amerasian.

In a way, she is a perfect metaphor for videogames themselves. She's a hybrid, of mixed Asian and American heritage, a creature made possible by the technological innovation of two hemispheres. Videogame characters are a bicontinental crossbreed of American and Japanese pop culture, with elements of Japanese comic books (manga) and animation as well as Western comics and science fiction.

On the Pacific side, videogames' family resemblance to manga and Japanimation are undeniable. In some cases, the games themselves are playable translations of popular Japanese comic books and animated films. In the last decade, hundreds of manga titles have been made into videogames in Japan, crossing over into the United States as manga shifts from cult status to mass acceptance, mostly via MTV. *Dragonball* alone has spawned six arcade games, a dozen titles for the Super Famicom (the Japanese equivalent of the Super NES), and a *Dragonball Game Boy* cartridge.

The salient feature of manga heroes—and the game characters based on them—is a preternatural cuteness and almost freakish babylike quality, which takes the form of oversized heads, tiny noses, and saucerlike, impossibly liquid eyes. This way of drawing characters translated easily into early videogames, which didn't have the graphic resolution to represent characters with adult proportions. Small, cute characters had fewer pixels per inch and were easier to use, and so videogames borrowed, for reasons of expediency, what manga had developed as a matter of convention. Even a character like Mario the Plumber, who's supposed to be an adult, with facial hair no less, is rendered with the roly-poly proportions of a child, like a manga character. You would expect characters to take on mature dimensions as technology enables videogame manufacturers to animate large, complex, realistic forms. But instead, companies like Sega hew even closer to the babyland aesthetic. To paraphrase Gordon Gekko in *Wall Street*, cuteness is good. Cuteness works.

The reason cuteness works, as Scott McCloud notes in *Understanding Comics*,¹ is that abstraction fosters identification. It is only because an animated character is abstract and cartoony that we can project our own expressions onto him. We can't really map ourselves onto truly realistic characters—we see them as objects, separated from us by their details. To use an annoying but useful postmodern term, they read as the Other. The most realistically rendered characters in videogames are usually enemies. The good guys are rounded, simplified, and childlike, a puttylike visual glove into which our own hands and faces fit. If anything, early videogames were especially powerful in this sense. The more photorealistic characters become, the less we relate to them. Seeing a cast of TV actors in a full-motion video makes you into more of a spectator or an editor than a part of the story, whereas the polygon people in *Tekken 2* are easy to slide into, and a character like Mario or Sonic is even easier to identify with. A primitive, completely minimal figure like Pac-Man takes this link between pixel and personality to the nth degree. Characters in *Mortal Kombat* have fingers and stubble. You watch them. Pac-Man has one black dot for an eye, and you become him.

Videogame companies are well aware of this, which is why their figureheads are all round and minimal and cute, just like, well, jeepers, just like Mickey Mouse. Sega is even working on a version of *Virtua Fighter 2* called *Virtua Fighter Kizu* (“kizu” is Japlish for “kids”) where all the adult martial arts characters are rendered with gigantic toddler heads. From a distance, it looks like ferocious dueling lollipops. If you count the height of their hair, the giant toddlers' heads are as tall as the rest of their bodies. The eyes are bigger than their flying fists.

Americans usually read these saucer eyes as Western, as a sign of whiteness. After all, the reasoning goes, Western eyes are bigger and rounder than Asian eyes. This must be the way that they see us. And for some strange reason, they're drawing us all over their comic books. But actually, that's not the case, says Matt Thorn, a doctoral candidate at Columbia University who is writing his dissertation on teen-girl comic books in Japan. “Japanese readers don't think of the characters as white,” he says. “Of course, they have these huge eyes. And so to us, the characters do look white, because Westerners expect that the Japanese will represent themselves the way that Westerners represent them. That is, we have these certain standardized ways of indicating to a viewer this character is Asian or this character is black or this character is anything but white, including the slanty eyes and the black hair. And of course, the Japanese don't draw themselves that way. Those characters aren't white, and the readers don't think of them as being white, despite those features. There's a concept in linguistics called the unmarked category. And in the West, which is white-dominated, white is the unmarked category. Everything else is marked and has to be indicated, but white is taken for granted. But in Japan, Japanese is the unmarked category, the one that's taken for granted. They've developed that style with the huge eyes—that's the way that they've developed for drawing people, which means Japanese people. And when they want to indicate that a character is not Japanese, they have different ways of doing it. Like, for white people and black people they use exaggerated features. Like for white people, they'll have big noses or really big bodies or really sharply defined eyelashes.”

So within a typical martial arts videogame, the racial continuum is deceptive. It's not a simple matter of ethnic blur. It's a matter of reading the signs in completely different ways. All the indeterminate characters that to Western eyes would read as white look Japanese to kids playing the games in Tokyo. Figuratively speaking, we read these faces left to right. The Japanese read them up and down. This isn't their way of drawing us. It's their way of drawing themselves. Meanwhile, both sets of videogame players look at the screen and think the characters look native. It's counterintuitive. But when you think about it, really, no one has eyes that big.

There are characters in videogames that are visibly Asian, the way Westerners would draw Asians. But these characters are never supposed to be from Japan. They are supposed to be from China or Korea or Mongolia or some other part of Asia. “The irony,” says Thorn, “is that the techniques that Westerners use to draw Asians are the same techniques the Japanese use when they're drawing Asians other than themselves. So you'll have a manga in which there are Japanese characters, which to us read as white. And then you'll have a Chinese character, and the Chinese character is drawn in such a way as to indicate to players that this character is not Japanese but Chinese. And they'll use the same kinds of techniques that we use: the straight black hair, the slanty eyes, etc.”

And Americans? Usually, when a videogame character hails from the United States, he's blond. He's broad. He's buff. And he's larger than life, or at least larger than the other videogame characters. He looks more like an American comic book character than a manga hero. And he's not nearly as unassuming and cute. In fact, the more videogames borrow from American comic books, the less cute they get. Whereas Japanese manga characters are generally childlike and unassuming, American cartoon heroes in the Marvel/DC vein are, if anything, hyperadult. "In America," writes comic book historian Fred Schodt, "almost every comic book hero is a 'superhero' with bulging biceps (or breasts, as the case may be), a face and physique that rigidly adhere to the classical traditions, invincibly accompanied by superpowers, and a cloying, moralistic personality."² Like the drawings in a Western superhero comic, American characters in Japanese fighting games have wildly distorted, hyperrealistic, hypersexual bodies. And in American software houses, where Superman takes native precedence over Speed Racer and Astro Boy, the videogames themselves are absolutely devoid of blinking sweetness, offering instead the beloved stateside menagerie of larger-than-life comic book mutants. Capcom's Marvel Superheroes arcade cabinet, which is seven feet tall and physically towers over its Japanese counterparts, pumps out sound effects at blockbuster volume and stars veiny, spandex-clad standbys like the Incredible Hulk, Spiderman, and Captain America. The arcade game is, essentially, a moving comic book that replaces Pow! Boom! Zap! bubbles with gut-rattling audio effects. In this way, a Marvel Comics videogame is a more intense comic book experience than the paper it's based on. Comic book characters have always been drawn swooping and swinging and flying through the air. Now they can do it in real time. Comic book videogames are comic books squared. And with this added dimension the blurry line between comic books and videogames finally dissolves.

This blur between media is epitomized by *Comix Zone*, a videogame for the Sega Saturn. The premise, whose only precedent is Swedish pop group A-Ha's *Take on Me* video, is that your character, Sketch, is trapped in a Marvelesque comic book universe and forced to battle through it, panel by panel, combating enemies drawn by Mortus, an evil comic book artist. Along the way, helper characters yell out from the corner of the screen ("Watch out, Sketch!") in comic book dialogue boxes. The object, ultimately, is to defeat the evil illustrator and rip yourself out of his two-dimensional paper universe. It's like an Escher drawing, where you break out of one *trompe l'oeil* tableau only to find yourself in another impossible illusion. Beyond the simulated comic book page is a simulated TV cartoon, when, really, there aren't any pages, or any television, for that matter. There are only the conventions of paper and television, twined around each other, to float the action of a videogame.

Of course, to kids playing *Comix Zone* or *Marvel Superheroes* or *Tekken 2*, the distinction between comic book and videogame or Asian and Western is completely irrelevant. The only categories they recognize are "fun" and "not fun." If you walk into an arcade, you don't see white kids choosing white characters and black kids choosing black characters. Kids routinely choose any and all of these options and don't think twice about it, because the only factor in their decision is a given character's repertoire of kick-ass fighting moves. Ironically, all considerations of race, sex, and nationality are shunted aside in the videogame arena, where the only goal is to clobber everyone indiscriminately.

But on a deeper level, the kids playing these games intuitively understand that they're operating in a disembodied environment where your virtual skin doesn't have to match your physical one, and that you can be an Okinawan karate expert, a female Thai kickboxer, a black street fighter from the Bronx, or a six-armed alien from outer space, all within the span of a single game. Members of the previous generation might have a problem with the idea of playing a Japanese schoolgirl in a combat game. At the very least, they would be aware of their decision to choose this character, and maybe even a little smug about being enlightened enough to do so. For kids of the eighties and nineties, shuffling videogame bodies and faces is like playing with a remote control. The game starts, cycles through a bunch of avatars, and you punch the fire button when you see one you like. It's channel surfing.

In this milieu, the classic distinctions between heroes and villains break down. In older videogames, and in all previous media, the good guys look one way and the bad guys look another. It may be as simple as black hats and white hats or as fraught as cowboys and Indians. In movies and TV shows, we know what the hero and the villain are supposed to look like, and those images are very loaded. Heroes talk like midwestern news anchors and own dogs. Bad guys speak with foreign accents and stroke cats. Heroines are slender and blond and adorably helpless. Bad girls have dark hair and red nails and hips and guns they're ready to use. And because of the way these people look, and the way they're lit, it's clear for whom you're supposed to root.

But in an arcade fighting game like *Virtua Fighter 2*, you can't do that, because those categories don't exist at all. You can play any character, and it's every gladiator for himself. This type of videogame doesn't label opposing forces as evil or good, because that would imply a scripted outcome, that the designated "hero" is supposed to win, when really no one is supposed to win. Everyone is supposed to play. It's the skill of the competitors that determines who wins and who loses. In a videogame, unlike in novels or movies or other fictions like history, no one—not even the game designer—knows the outcome of a given contest. And so it's impossible to cast a moral hair light on one character versus another.³ There are no heroes and villains in a round-robin martial arts game. There are only combatants, each with his or her own special weapons, attributes, and fighting style. In the post-Cold War world, this seems an evenhanded approach. Everyone's a hero. Everyone is also a monster.

Or, to paraphrase the Red Dog beer motto, you are your own monster. Now that the videogame hero is freed from the cosmetic constraints of gallant poster boyhood, you can play a whole menagerie of creatures, from werewolves to ice creatures to dinosaurs. Superhuman strength and/or demonic powers seem to be the only prerequisites for inclusion in the videogame bestiary, which draws from martial arts movies, Arthurian legend, the Greek pantheon, science fiction, Norse mythology, and *Jurassic Park*. And that's just *Primal Rage*, one of the hotter fighting games of 1996.

Primal Rage is mythic stuff. It's a fight-to-the-death among angry, violent demigods who are also dinosaurs. According to the epic back story, "Before there were humans, gods walked the earth. They embodied the essence of Hunger, Survival, Life, Death, Insanity, Decay, Good, and Evil. They fought countless battles up through the Mesozoic Wars." When these conflicts threatened to destroy the planet, a wiser, more mature deity in another dimension decided to launch a kind of mythological NATO peacekeeping mission to shut them up. "He was not powerful enough to kill the gods," the story goes, "so instead he banished one to a rocky tomb within the moon. This disrupted the fragile balance between the gods; pandemonium ensued, and a great explosion threw clouds of volcanic dust into the atmosphere. The dinosaurs died out, and the surviving gods went into suspended animation. Now, the impact of a huge meteor strikes the Earth. Its destructive force wipes out civilization, rearranges the continents, and frees the imprisoned gods. Get ready to rumble..."

The game ensues, throwing you into a kind of fossil fantasy Ragnarok scenario where you choose one of these reptilian gods to fight against all the others. Each of them has its own repertoire of decay-related weapons, most of which involve bodily functions. The God of Survival is a crafty velociraptor lacking in brute strength but incredibly agile and slippery.

In addition to its personal eccentricities, each character also has a coordinated epic backdrop. The fire-breathing *Tyrannosaurus rex* dukes it out in the *Inferno*, an active volcanic island oozing lava. The serpentine Goddess of Insanity fights on a Stonehengian knoll under a full moon with petrified enemies planted like lawn sculptures in the background. And, if you make it through all these themed battlegrounds, the final scene of *Primal Rage* is set in a dinosaur graveyard littered with the bones of fallen reptiles. Red cracks split the ground, and a huge vortex swirls in the sky as you leap, bite, and strike as best you can against a very scary-looking, dragonish God of Death. It's a perfect frappé of paleontology and the supernatural, prehistory and the apocalypse. Like the science fiction universe, videogames are where technology melts into the occult. This is a place where missile launchers and mojo are both legitimate weapons. All the old monsters, harpies, dragons, and divinities are excavated from their mythological sediment, sampled, looped, remixed, cross-faded, and digitally recycled. Videogames do to dusty legends what deejays do to vintage vinyl. They weave the old grooves into something accessible to teenagers.

And increasingly, it doesn't matter where those teenagers are. The same way a transcendent house mix leaps from a mixing board in London to sound systems in Tokyo, Los Angeles, and Helsinki, good videogames have a way of becoming popular everywhere. It's all digital. And a certain echelon of global youth all have access to the technology. So if it's fun, it quickly goes transnational. And in the process, it ceases to connote nationality. A successful dance track or videogame doesn't read Japanese or American, German, or British. It's all just pop. And it's yours for fifty cents.

The finest digital architects on the planet have built these playgrounds out of comic books, Hong Kong cinema, scroll paintings and music videos, ancient monsters and digital technology. They pour in their myths and suck out quarters.

And this is what it's about, finally, as the cultural streams of East and West swirl into the Taste-Freeze of global entertainment. Mythic figures resonate, all the more if they're engaged in some kind of combat or action adventure, real or simulated, the most popular forms being basketball and video games. They resonate for the same reasons mythic figures have always resonated. Only now, the audience numbers in the millions, and the object is not to celebrate ancestors or teach lessons or curry favor with the spirits. It's commerce. And the people transmitting their stories to the next generation aren't priests or poets or medicine women. They're multinational corporations. And they are not trying to appease the gods. They are trying to appease the shareholders. It's not just videogames. It's everything, with the possible exception of the Internet. All the mythic pop stars in Hollywood, the NBA, and MTV are purchasable commodities. Videogames are just the logical extreme, because all the superheroes in them are computer generated for maximum resonance and marketing kick. Unlike sports stars or actors, they don't get addicted, arrested, or petulant. They perform. They may look and act superhuman. They may throw lightning or breathe fire. And when you're in the game, they may really inspire or scare you. But unlike the mythic monsters that preceded them, videogame demons are caged in their arcade cabinets, firmly under the control of their corporate wardens. Demigods used to make people docile. Now it's the other way around. It is Sega and Namco and Capcom and Williams Entertainment, finally, that have tamed the dragons.

MEANINGS AND VALUES

1. Explain the significance of the title of the essay. How does it connect to Herz's message?
2. Why does Herz open with a description of a female, Japanese video character? What is significant about this character as opposed to other characters that Herz might have chosen to use in an introduction?
3. What is the significance of Paragraph 4? Does technology control other images that we see? Can it define or create stereotypes? Please explain.
4. In the first section of this essay (Par. 1-11), Herz explains the different images of heroes from different nations. But in Paragraph 12, she makes a clear shift into limiting the importance of gender, race, and nationality. What is the significance of this shift?

EXPOSITORY TECHNIQUES

1. Herz repeatedly uses comparison and contrast in this essay. Identify the different things that she compares. How successful is this technique for a reader who may have limited knowledge of video games?
2. What is the thesis of this essay? (See "Guide to Terms": Thesis.) What type of reasoning (inductive, deductive, or a combination of both) does Herz employ to clarify and support the thesis?
3. Herz uses the second person (you) at various points in the essay. How effective is this? Why might she have chosen that technique in the places that she did?

DICTION AND VOCABULARY

1. Identify slang and jargon in "Superhero Sushi." (Guide: Slang.) Is the use of such language excessive? Could a person unfamiliar with video games and the language associated with them understand the essay? Please explain.
2. To what age group(s) is this essay targeted? Explain how Herz's language helps to define the age of her intended audience.

READ TO WRITE

1. Collaborating: List as many video game characters as you can think of and identify their race, gender, nationality, or species (if appropriate). Working with a group, compare your lists. Write a plan for an essay analyzing the various trends in video game characters.
2. Considering Audience: This essay clearly will be more easily understood by readers who have played video games or at least observed others play them. Using Herz's thesis as the basis for an essay, write a similar piece for an audience that might be less familiar with such technology.

3. Developing an Essay: Choose two or three virtual characters with which you are familiar, then go to a local arcade and study the newest games. Write an essay similar to Herz's that uses these characters collectively as a basis for an inductive generalization about the latest trends in video game characters.

(NOTE: Suggestions for essays requiring development by INDUCTION and DEDUCTION follow.)

Writing Suggestions for Chapter 12

INDUCTION AND DEDUCTION

Choose one of the following unformed topics and shape your central theme from it. This could express the view you prefer or an opposing view. Develop your composition primarily by use of induction, alone or in combination with deduction. Unless otherwise directed by your instructor, be completely objective and limit yourself to exposition, rather than engaging in argumentation.

1. Little League baseball (or the activities of 4-H clubs, Boy Scouts, Girl Scouts, etc.) as a molder of character
2. Conformity as an expression of insecurity
3. Pop music as a mirror of contemporary values
4. The status symbol as a motivator to success
5. The liberal arts curriculum and its relevance to success in a career
6. Student opinion as the guide to better educational institutions
7. The role of public figures (including politicians, movie stars, and business people) in shaping attitudes and fashions
8. The values of education, beyond dollars and cents
9. Knowledge and its relation to wisdom
10. The right of individuals to select the laws they obey
11. Television commercials as a molder of morals
12. The "other" side of one ecological problem
13. The value of complete freedom from worry
14. Homosexuality as inborn or as voluntary behavior
15. Raising mentally challenged children at home
16. Fashionable clothing as an expression of power (or as a means of attaining status)

COLLABORATIVE EXERCISE

Using number 3, 5, or 10 from the Writing Suggestions list above, have each member of your group write an inductive generalization for the topic. Then as a group, create a plan for a unified essay that presents one of the inductive generalizations.

#

Chapter 12 / Reasoning by Use of Induction and Deduction

Preliminary observation states topic

Inductive evidence/
details

Inductive generalization

Background for generalization

Deductive generalizations

Why Use Induction and Deduction? #

Specific instance to be explained using the generalizations

Chapter 12 / Reasoning by Use of Induction and Deduction

Choosing a Strategy #

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Developing Induction and Deduction #

Background

Events in the history of MADD and its efforts lead up to the inductive conclusion

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Developing Induction and Deduction #

Inductive generalization

First deductive explanation

Second deductive explanation

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Third deductive explanation

Developing Induction and Deduction #

Chapter 12 / Reasoning by Use of Induction and Deduction

1

2

Friday / The Age of Beauty #

3

4

5

6

7

8

Chapter 12 / Reasoning by Use of Induction and Deduction

Friday / The Age of Beauty #

Issues and Ideas #

Szalavitz / A Virtual Life #

1

2

3

4

Chapter 12 / Reasoning by Use of Induction and Deduction

5

6

7

8

9

10

11

Szalavitz / A Virtual Life #

12

13

Chapter 12 / Reasoning by Use of Induction and Deduction

Herz / Superhero Sushi #

1

2

Chapter 12 / Reasoning by Use of Induction and Deduction

¹Scott McCloud, *Understanding Comics: The Invisible Art* (New York: HarperCollins, 1993).

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²Frederik Schodt, *Manga Manga: The World of Japanese Comics* (Tokyo: Kodansha, 1983), 77, 78.

Herz / Superhero Sushi #

Chapter 12 / Reasoning by Use of Induction and Deduction

³This becomes patently obvious when you play a game like Tekken 2, where even the more wholesome characters are monstrously broad-shouldered, earnest, square-jawed, and monumental in the style of socialist realism. This is when you realize that monstrosity is in the eye of the beholder. This is also when you realize that most of the superheroes we hold up for children to admire are freaks.

Herz / Superhero Sushi #

Chapter 12 / Reasoning by Use of Induction and Deduction

Herz / Superhero Sushi #

Chapter 12 / Reasoning by Use of Induction and Deduction

