

What Is Critical Thinking?

As a reader and a working classroom teacher I always appreciate a chapter, or even a book, that starts by telling me what I'm going to be reading in the next few pages. That way, if it's of no interest to me I can skip it and spend my time doing something more useful or pleasurable (hopefully both). So let me begin this introduction by saying that in this chapter I want to introduce what I understand as the basic process of critical thinking. This entails (1) identifying the assumptions that frame our thinking and determine our actions, (2) checking out the degree to which these assumptions are accurate and valid, (3) looking at our ideas and decisions (intellectual, organizational, and personal) from several different perspectives, and (4) on the basis of all this, taking informed actions. I also propose a basic typology of different kinds of assumptions that critical thinking unearths and scrutinizes—paradigmatic, prescriptive, and causal.

I'm also using this chapter to make some strong claims about critical thinking. I argue that if you can't think critically your survival is in peril because you risk living a life that—without your being aware of it—hurts you and serves the interests of those who wish you harm. If you can't think critically you have no chance of recognizing, let alone pushing back on, those times you are being manipulated. And if you can't think critically you will behave in ways that have less chance of achieving the results you want. So critical thinking is not just an academic process that leads

to good scores on SATs, elegantly argued essays, or experimental hypotheses that can stand the toughest scrutiny. It is a way of living that helps you stay intact when any number of organizations (corporate, political, educational, and cultural) are trying to get you to think and act in ways that serve their purposes.

How Critical Thinking Saved My Life

As a way of leading into these ideas I want to begin on a personal note by showing how critical thinking saved my life. A few years ago I was at rock bottom emotionally. I was one of the 20 million Americans diagnosed with clinical depression and anxiety, convinced most days that I was on the verge of death and feeling worthless and ashamed about my inability to control my state of mind. I spent a great deal of energy hiding my depression as best I could from family, friends, and colleagues, and steadfastly refused to seek medical help. Since, objectively, I had nothing to be depressed about (I had a job I loved and a loving family) my response to my depression was to tell myself to snap out of it. I believed the way to beat depression was to reason my way through it, to tell myself that since there was no earthly reason I should be depressed, I ought to just stop being that way. My depression's persistence and debilitating effect were heightened dramatically because I wasn't thinking critically about it. Once I started to do this, things improved dramatically. So, I begin this chapter with a bold statement; the ability to think critically about one's assumptions, beliefs, and actions is a survival necessity.

I've written about this period of depression in much greater detail elsewhere (Brookfield, 2011) and this may be entirely too much information about me for you to digest so early! If that's the case, then skip this introductory section and go to the next section, Hunting Assumptions. If you're still with me I want to focus on just one point—what was getting in the way of my dealing with my depression was my inability to think critically about it. What

I mean by that is that I refused to consider the possibility that any of my assumptions regarding my depression were wrong. For example, I assumed that the right way to deal with depression was to think your way out of it. I assumed that depression was a sign of weakness, unless external circumstances (such as divorce, being fired, or the death of a loved one) warranted it. Because I assumed I was weak, I assumed I needed to hide my condition from peers and colleagues. More fundamentally, I assumed that if I was a real man I would be able just to stare this condition down and force myself out of it by an act of will. I assumed it was up to me to “dig deep” (as the sports cliché has it) and dredge up the mental strength to beat it.

Some of the assumptions I’ve just outlined were on the surface and were reasonably easy to identify. These mostly had to do with how I understand cause and effect. For example, I reasoned that depression was caused by external circumstances and therefore, since my circumstances were good, it was a mistake to be depressed. The assumption that by engaging in intentional self-talk (“come on now, don’t be ridiculous, it’s all in your head, you are in great shape, there’s no reason at all to feel the way you do”) I could move beyond depression was also causal. Causal assumptions can always be stated as cause and effect linkages, as in “if I do A, then B will happen.” Hence, they are both explanatory and predictive. They explain why the past happened by establishing the causes of particular events. They predict the future by positing what will be the consequences and effects of certain decisions.

Some of the assumptions about depression I reviewed were more about how good professionals (which is how I thought of myself) are supposed to behave. These were prescriptive assumptions. Prescriptive assumptions are assumptions we hold about what are desirable ways of thinking or acting. They can usually be recognized by their inclusion of the word *should*, as in “a good professional should be able to respond to cultural diversity,” or “a good marriage is one in which partners can be totally honest with

each other.” Prescriptive assumptions state what a good friendship or relationship looks like, what should be the characteristics of a truly democratic decision, or how social resources should be allocated. I held a prescriptive assumption that a normal, fully functioning person copes well with life and doesn’t get depressed. I believed that good professionals don’t let irrational feelings of depression, worthlessness, or shame dominate their lives.

The third type of assumptions I held about depression was harder for me to uncover and challenge. These assumptions lay deeper within my mental structures and were not immediately apparent to me. They were so much a part of my outlook, and so central to my self-identity, that when they were pointed out to me as being assumptions I was tempted to reply, “that’s not an assumption, that’s reality.” Specifically, I assumed that a fully functioning man is logical, clear-headed, and determined, a sort of steely-jawed, no nonsense mental equivalent of an early Clint Eastwood character, or Howard Roark in Ayn Rand’s *The Fountainhead*. Although I would have strenuously denied it at the time, I had assumed that the ideology of patriarchy—the belief that men are governed by reason, women by emotion, and therefore that men’s powers of rationality equip them to be natural leaders—was correct. As I say, this was *not* an assumption I held consciously. It was much more subtle than that; it had wormed its way into my consciousness, so to speak. I call this kind of assumption a paradigmatic assumption.

Paradigmatic assumptions are the deeply held assumptions that frame the whole way we look at the world. When we discover paradigmatic assumptions it often comes as a shock. In the case of depression I had no real awareness of just how strongly I had successfully internalized the assumptions of patriarchy. Patriarchy views men as natural leaders and decision makers because they are guided by reason and logic, unlike women who are regarded as being guided by irrational emotion. Patriarchy says that a “real” man has no need for drugs to fight depression and, moreover, that

a real man doesn't suffer from depression in the first place. Because men are deemed to be naturally strong and in command they assume that if they simply tell themselves not to be depressed that will take care of the problem.

I had been well socialized over five decades into accepting the ideology of patriarchy, and it was so much a part of me that it was very difficult for me to see just how powerfully that ideology was shaping my behavior. But I'm convinced that one reason I didn't seek help until after years of misery was because I believed that if I was a "proper man," a "real man," I wouldn't need a psychiatrist, or drugs, to help me deal with depression. All I would need was manly inner fortitude. "I'm a man, I'm supposed to be ruled by reason, I should be able to keep my feelings under control" was the inner voice that rumbled beneath my more conscious conversations. To take drugs to deal with a problem was something that would be OK if I was a woman, but was surely a sign of weakness for a man. So month after month, year after year, I refused to consider any suggestion of medication. This refusal was underscored by the fact that the only people I knew who were taking medication for mental problems were all women. There was no male I was aware of under meds for depression.

One thing I learned about overcoming shame was that for me, a man, it required a process of ideological detoxification. I had to understand just how deeply and powerfully the ideology of patriarchy had been implanted in me over my five decades on the planet. And I had to understand, too, that stopping it from determining how I thought about, and responded to, my own depression would be a long haul. Even today, despite having written books on critical theory (Brookfield, 2004) and radicalizing learning (Brookfield and Holst, 2010)—both of which explore how to resist ideological manipulation—I still feel there's an unseemly lack of manliness, or grit, in my suffering from and disclosing my depression.

A second paradigmatic assumption I had to uncover had to do with the etiology of depression. I assumed that people feel

depressed because something bad has happened to them. So the fact that depression had settled on me seemingly out of the blue was completely puzzling. Yes, 9/11 had happened a few months before, and yes, I had nursed my mother during her last weeks of cancer a year earlier, and yes, some test results I had received had been worrying—but none of those seemed to account for the overwhelming anxiety and depression that gripped me. The paradigmatic assumption that depression was rationally caused, and therefore treated by the application of reason, took me years to unearth, challenge, and discard. I had always considered myself a sentimental person, given to emotional reactions to people, compassion, sport, music, and film, and had no idea of just how deeply the epistemology of European rationality was assimilated within me. Challenging and changing my unquestioning belief in rationality with the assumption that depression was the result of chemical imbalances in the brain was enormously difficult. I was so fixated on my inability to reason myself out of feeling depressed that I was unable to consider any other way of understanding how depression was caused.

Once this second paradigmatic assumption was challenged then many of my causal and prescriptive assumptions started to totter. Having managed to reframe my assumptions about the etiology of depression, it became much easier to keep the debilitating effects of shame under control. If depression is linked to chemical imbalances in the brain, I could tell myself, then part of its treatment has to be pharmaceutical. Suddenly, drugs didn't seem a sign of weakness, an indication that I was a pathetic excuse as a human being. After all, my psychiatrist told me, you're fine with taking drugs for bodily imbalances such as high cholesterol, high blood pressure, acid reflux—why should taking drugs to redress chemical imbalances in the brain be any different? Instead of assuming that depression was always caused by the existence of depressing external circumstances that a real man should be able to transcend, I started to see it as a medical condition like asthma, diabetes, or

high blood pressure. Once I started to view depression as caused by a chemical imbalance in my brain and not by the external circumstances of life, I opened myself up to the possibility that it might be appropriate to treat my condition with pharmaceuticals.

All this is by way of illustration of how critical thinking saved my life. Because I identified and challenged several assumptions I held about the nature, cause, and treatment of depression I was able to seek psychiatric help and eventually settle on a combination of medications that kept me emotionally stable. Instead of being plagued by permanent feelings of shame and worthlessness, and feeling suicidal on some days, I returned to my old self. That's not to say I don't have days when I feel down, get fed up with things, or feel anxious about situations. But because I was able to think critically about it, depression doesn't rule my life as it did. Had I not been able to think critically about it, the depression would still be overwhelming me.

Hunting Assumptions

The core process described in the example I've just given in the opening section of this chapter—as it is in all critical thinking—is hunting assumptions. Trying to discover what our assumptions are, and then trying to judge when, and how far, these are accurate, is something that happens every time critical thinking occurs. You cannot think critically without hunting assumptions; that is, without trying to uncover assumptions and then trying to assess their accuracy and validity, their fit with life.

Assumptions are guides to truth embedded in our mental outlooks. They are the daily rules that frame how we make decisions and take actions. Everyday communications are subject to a continuous and ever-present set of assumptions. We make assumptions about the meaning behind the words we, and others, use, about the meaning of certain gestures, expressions, or pauses, or about how to respond to a comment. Assumptions inform our judgments

about whether or not someone is telling the truth, or how to recognize when we are being manipulated.

As we move through each hour of each day our actions are always based in assumptions, most of which have been confirmed by repeated experience. I brush my teeth assuming that doing so will prevent tooth decay and cut down on the expense and pain of dental procedures. I choose my food for the day based on assumptions about how healthy, or how pleasurable, eating those foods will be. I set the thermostat and choose clothes based on assumptions I'm making drawn from the weather report. As I drive to an appointment I fill the gas tank, lock the back door, follow traffic lights, and rely on street signs on the assumption that doing all these things will get me where I want to go in the speediest and safest way possible. All the assumptions I've mentioned are held because experience has shown them to be accurate. When I want to get to Fridley, Minnesota, I follow the AAA map and the interstate road signs, and set the GPS, because doing this in the past for other destinations has been successful. So I assume that it will be equally successful this time around.

Assumptions as instinctive guides to truth operate at much deeper levels than that of daily routine, however. In the example of depression, a host of assumptions were present about what it meant to be a man. Some of these were highly personal and context specific, but others were linked to dominant ideologies such as patriarchy and what critical theorists call the instrumentalization of reason (Brookfield, 2004). This is a fearsome sounding piece of academic jargon that actually is pretty easy to understand. Instrumentalized reasoning is described by Horkheimer and Adorno (1972) and Marcuse (1964) as the kind of thinking that is most valued in contemporary life. Basically, you reason instrumentally whenever you try to fix a problem without ever questioning whether or not the problem is the one that needs fixing. You reason instrumentally when you tinker with a system—for example, how to

assess whether students are learning correctly—so as to improve it, to make it more effective. You don't ask whose interests are served by solving the problem, because you're so focused on being a good fix-it kind of person.

When people think critically they question the fundamental assumptions behind how problems are defined. They ask the big questions of life—what constitutes learning? How do we organize organizations and communities to encourage compassion or fairness? What is the fundamental purpose of teaching? What does it mean to work authentically? Needless to say, in an instrumentalized culture asking these questions is usually seen as either Utopian, impractical, or idealistic, something we grow out of and come to regard as an annoying waste of time.

Assumptions that spring from dominant ideologies are particularly hard to uncover, precisely because these ideologies are everywhere, so common as to be thought blindingly obvious and therefore not worthy of being the object of sustained questioning. These are the paradigmatic assumptions described earlier. Ideologies are the sets of beliefs and practices that are accepted by the majority as commonsense ways of organizing the world. Some of them operate at macro-levels, such as the assumption that majority vote democracy is the decision-making system that most fairly meets the most important needs of the majority. Others operate at micro-levels, such as the assumption that a secret vote gives the most accurate result, or that an action supported by a majority vote has the greatest legitimacy and is therefore the one that should be followed.

Along with democracy, free-market capitalism is another ideology that exercises enormous influence. On a macro-level capitalism holds that the less you regulate economic activity, the more you encourage individual entrepreneurship. Capitalism further assumes that individual economic enterprise and political liberty are inextricably intertwined, so that if you want to safeguard a free

democracy you must defend capitalism. Consequently, socialism, communism, even social democracy are viewed as inherently undemocratic. After all, if capitalism is viewed as the economic arrangement that best guarantees individual freedom, then any noncapitalist alternatives must be regarded as threatening freedom to various degrees.

Capitalism and democracy are two dominant ideologies that are highly public. We learn them in school, from the media, in our families, at our workplaces, and through the organizations of civil society such as the church or local political associations. Much harder to identify but equally influential are ideologies that are submerged, such as White supremacy, patriarchy, or heterosexism. These ideologies all hold that leadership is best exercised by Whites and males and heterosexuals, because these are deemed to be smarter, more stable, and more accomplished. Civil rights legislation has ensured that these beliefs are rarely spoken. But ideology is learned not just through the spoken or written word, but also through behavior (what critical theorists call practices). When we go through life seeing leadership positions filled by Whites, particularly White men, and when no one remarks on this fact, we are learning dominant ideology. When a person of color, or a woman, or an “out” Gay or Lesbian attains a position of prominence or influence, and this fact is highlighted as an example of democracy and liberty in action, dominant ideology is in action. After all, when a heterosexual White male attains the some position, his race, gender, or sexuality is rarely mentioned. This is because Whiteness, maleness, and heterosexuality are the leadership norms that we observe everywhere and that we internalize without being aware of it. Paradoxically, an event that seems to disrupt and challenge dominant ideology—such as the election of a biracial president, or the appointment of an African American woman as secretary of state—actually confirms it, at least in the short term. The very fact that these are exceptions, and celebrated as such, actually confirms the enduring influence of the norm.

So Exactly What Is Critical Thinking?

Let's begin answering this question by dispensing a few misconceptions. Here's what critical thinking is *not*. It's *not* something that only people with a college degree can do. It's *not* the same as being logical, solving problems, or being creative—though aspects of some or all of these are sometimes present when we think critically. It's *not* something you do only if you've studied philosophy. It's *not* necessarily the same thing as being critical of something, as in when we tear apart a film, or criticize a partner's, friend's, or colleague's behavior, for their shortcomings. It's *not* something that only happens when you reach a certain age. It's *not* something that can only be pursued when you have the time to sit and reflect on an idea or a situation. And, finally, it's *not* correlated to IQ, personality, or other measures of intelligence. So whether or not you've been to college, how you score on intelligence tests, whether you're an extrovert or introvert, how busy or leisurely your life is, or what subjects you did best in at school are all irrelevant when considering how well you do critical thinking.

So what is it? Well, my best way of describing it is to say that critical thinking happens when we do four things . . .

Hunting Assumptions

Critical thinking happens first when we try to discover the assumptions that influence the way we think and act. Pretty much every action we take is based on assumptions that we have accepted, sometimes unthinkingly, as accurate. Critical thinking involves deliberately trying to find out what these assumptions are.

Checking Assumptions

When we become aware of the assumptions that are guiding our actions and ways of thinking, we begin to check out whether those assumptions are as accurate as we think they are. This is the second element of critical thinking—trying to assess whether or not our

assumptions are valid and reliable guides for action. Here we're engaged in a process of appraisal—trying to see when assumptions make sense, and when they don't, what assumptions cover lots of situations and what assumptions are specific to very particular events. Key to this process is identifying and assessing what we regard as convincing evidence for our assumptions. Sometimes this evidence is experiential (the things that have happened to us), sometimes it's authoritative (what people we trust have told us is the truth), and sometimes it's derived from disciplined research and inquiry we've conducted.

Seeing Things from Different Viewpoints

One of the best ways to decide whether or not an assumption is accurate—or under what conditions it does or doesn't make sense—is to try and see our assumptions and actions from multiple, and different, points of view. In the different roles I play in life—partner, parent, teacher, scholar, bandleader—I usually act assuming that people around me are reading into my actions the same meanings I intend them to pick up. Experience has taught me that this broad—some would say meta—assumption is often seriously flawed. Often my words and actions have been understood in ways that are completely different from the ways I intended them to be understood. So one way to find out how accurate our assumptions are is to try and see ourselves as others see us.

Taking Informed Action

The whole point of critical thinking is to take informed action. The reason I'll do the first three things I've just described is so that I don't waste energy acting in ways that I think are good for me, and that I believe will have the effects I want, only to find out that the opposite is true. Life is too short, and too dangerous, to waste a lot of time acting in uncritical ways. Let me emphasize this point again. The main reason we need to think critically is so we can take informed actions. In shorthand terms, we think critically not

just to survive, but also to live and love well. And a life in which our actions are based on what we feel are accurate understandings of our situations is likely to be experienced as much more satisfactory than a life in which our actions are haphazard and arbitrary.

But what exactly is an informed action? Well, it's an action that is based on thought and analysis, which means there is some evidence we take seriously as supporting such an action. To use a trite example, as a bandleader I sequence the sets our band plays based on the evidence of previous audience's reactions. The more I do this, the more I realize that audiences are different. Songs and jokes that go down well when we play the last set at a dive bar may bomb when we play a bowling alley full of families. So an informed action is one that is supported by evidence we find convincing. If someone asks us why we're acting the way we are, we can explain our choices and decisions in ways that allow our questioner to see that they're based on evidence.

Of course, the evidence we're basing our actions on can be nonsensical. For example, plenty of people act on evidence solely because of the source of that evidence. "If so and so says it's true," this reasoning goes, "then it must be true because I trust their insight." I'm no different. I often listen to music, read literature, or watch TV shows or films solely because someone whose taste and opinions I trust tells me they're good. This is how what has been called groupthink (Janis, 1982), automaton conformity (Fromm, 1941), or hegemony (Gramsci, 1971) develops. These three concepts all describe the easy way we fall unthinkingly into assuming that certain things are obviously true, a matter of common sense. The trouble with habitually relying on people with authority or credibility to tell us what to think is that sometimes these people are, at worst, evil and manipulative, at best, prejudiced or unreliable. After all, people have been willing to commit genocide because someone they believe to be superior in some way has convinced them of the filthy ideology that a person's race, ethnicity, creed, or culture means that person is less than fully human.

So to act based on evidence is itself no guarantee that critical thinking is happening. We also need to know that our actions are having the effects we wish them to have. In this sense an informed action is one that plays out the way we want it to—it has the results we want it to have. When the set list I have constructed for a particular club brings down the house, I usually conclude it's because I've scanned my previous experiences playing this, or similar bars, and chosen a sequence of songs that will have this result.

Why Should We Think Critically?

Up to now, I've presented critical thinking as the habit of making sure our assumptions are accurate and that our actions have the results we want them to have. Understood this way, critical thinking is uncontroversial, something that seems so obviously good that no reasonable person could object to it. This conception of critical thinking appears neutral, simply a question of checking and citing evidence. And it's this conception—drawn largely from the tradition of analytic philosophy—that is the most widespread one in American elementary, secondary, and higher education. When my two children went through the St. Paul, Minnesota, public school system, their annual report cards assessed their ability to think critically. Teachers explained this to me as assessing whether or not my kids could give reasons for their opinions and quote the evidence for their conclusions. Nothing controversial or contentious there.

However, as soon as you understand critical thinking to be linked to action you enter the realm of values, because you have to ask the questions, "Action for what?" and "Whose actions do we want to support?" Sometimes actions serve the ends of the actor, and if the actor is trying to hoodwink, manipulate, harm, or brutalize another, then those actions surely are questionable. After all, a skilled advertiser can think critically about which emotions

to tap into and examine research on how to do this, all with the purpose of selling a product and improving stockholder dividends. Political spin-doctors think critically about how best to disguise the errors of their clients and how to present these as successes. Demagogues and racists examine the evidence of how best to whip up racial hatred and use potent narratives and symbols to play on people's insecurities to keep a racist system intact.

At other times the actions we think are in our best interests are actually harmful to us, even when we're not aware of that fact. This is how I connect the concept of hegemony (drawn from critical theory) to critical thinking. Hegemony is in place when people behave in ways that they think are good for them, not realizing that they are being harmed and colluding in their own misery. People suffering from anorexia assume that by not eating they make themselves more beautiful and less unsightly, closer to the idealized body images they see in advertising. People who assume that good workers need to be available 24/7 to serve the ends of their employers think ill health and exhaustion are natural. I know of what I speak here. Three times at work I have collapsed—once in my office, once at an airport on the way to give a speech, and once in my car driving home from a workshop I had given—each time to be rushed to the emergency room, hospitalized overnight, only to find out that there was nothing wrong with me other than exhaustion. All the time I was exhausted, I was congratulating myself on how well I was fulfilling my vocation as an educator. The more burned out I felt, the more professional and committed I told myself I was being. Instead of fighting against an insane situation I was a willing victim, feeling perversely proud of myself the more tired I became.

So part of critical thinking is making sure that the actions that flow from our assumptions are justifiable according to some notion of goodness or desirability. This is where things start to get complicated, and where questions of power arise. What if you and I disagree about the right response to a situation? How do we decide

which is the better, more critical response? For example, if I think capitalism rewards those who already have and secures permanent inequity, and you think it ensures that the spirit of individual entrepreneurship stays vigorous and therefore is essential for the functioning of a healthy democracy, how do we assess who is thinking more correctly? Each of us can cite evidence, scan experience, and produce credible, authoritative individuals who support our respective point of view. But ultimately, each of us has arrived at our position from a mixture of analyzing our experiences, thinking in the most critical way we can about them, and then allying our analysis with our vision of what the world looks like when it's working properly.

Critical thinking can't be analyzed as a discrete process of mental actions that can be separated from our object of analysis, from exactly *what* it is that we're thinking critically about. If critical thinking is understood only as a process of analyzing information so we can take actions that produce desired results, then some of the most vicious acts of human behavior could be defined as critical thinking. Serial killers presumably analyze how best to take steps to avoid detection by examining their assumptions about how to stalk victims, hide evidence, and dispose of bodies. Religious cult leaders think critically about how to disassociate new recruits from their past lives and allegiances, and how then to create an identification with the new leader. Spousal abusers can think critically about how to beat up a partner in a way that hides bruises and overt signs of injury, while making partners feel that they deserved the abuse and that the abuser was doing it for their own good.

Josef Goebbels' use of propaganda is an example of critical thinking if we restrict our understanding of it solely to the mental process of how it happens. After all, he worked from paradigmatic and prescriptive assumptions about Jewish impurity, and the need for genocide to rid Germany of Jewish people and culture, that he felt were philosophically justified and empirically correct. He then

developed carefully analyzed causal assumptions to decide that the best way to do this was to use propaganda—in particular moving and still visual images of Jews and the Führer—to bolster the official Nazi line that it was Jews' presence that was sabotaging Germany and preventing it from being the world power it was destined to be. This was also the thinking behind the Nazi adoption of Sorel's *Big Lie* theory—the notion that if a lie is repeated frequently and vociferously enough it becomes accepted as truth. Goebbels' critical thinking was successful in the terms set for it—to create a cultural atmosphere where extreme anti-Semitism became accepted as so obviously true that untold numbers of ordinary Germans became complicit in the mechanics of genocide.

This is one of the limits we should acknowledge about critical thinking. It can't be considered separately from values and commitments, whether they be moral or political. Neither can it account for spirituality. One can think critically about one's own spiritual belief or religious commitments, or about the practice of religious tenets, but you can't *think* your way to enlightenment, Satori, rapture, or salvation. Those states of being are realized through other means than the process of rational analysis.

What Are the Different Kinds of Assumptions We Think Critically About?

I've already partially answered this question in the discussion up to this point. But let me return to it and say a little more about the three kinds of assumptions people need to be alert to—paradigmatic, prescriptive, and causal.

Paradigmatic assumptions are the hardest of all assumptions to uncover. They are the structuring assumptions we use to order the world into fundamental categories. Usually we don't even recognize them as assumptions, even after they've been pointed out to us. Instead we insist that they're objectively valid renderings of reality, the facts as we know them to be true. Some paradigmatic

assumptions I have held at different stages of my life as a teacher are that adults are self-directed learners, that critical thinking is an intellectual function only characteristic of adult life, that good adult educational processes are inherently democratic, and that education always has a political dimension. Paradigmatic assumptions are examined critically only after a great deal of resistance to doing this, and it takes a considerable amount of contrary evidence and disconfirming experiences to change them. But when they are challenged and changed, the consequences for our lives are explosive. The example I gave earlier of my assumptions about the causes and treatment of depression were paradigmatic in that they underlay everything I thought about how best to understand and deal with depression. Either they were obviously true to me, or they were so embedded in my consciousness (patriarchy) that I didn't even realize how much sway they held over my decisions.

Prescriptive assumptions are assumptions about what we think ought to be happening in a particular situation. They are the assumptions that are surfaced as we examine how we think we, or others, should behave, what good learning and educational processes should look like, and what obligations students and teachers owe to each other. Inevitably they are grounded in, and extensions of, our paradigmatic assumptions. For example, if you believe that adults are self-directed learners then you assume that the best teaching is that which encourages students to take control over designing, conducting, and evaluating their own learning. If you believe that depression is only caused by external circumstances, then you believe that if your external circumstances are fine, you shouldn't be depressed. You also then believe that the best way to respond to depression is to tell yourself you have no reason to be depressed.

Causal assumptions are assumptions about how different parts of the world work and about the conditions under which these can be changed. Of all the assumptions we hold, causal ones are the easiest to uncover. In workshops and classes I have taught on criti-

cal thinking over the past 30 years these assumptions are the ones that are by far the most common. At a rough estimate, I'd say that maybe 80% of assumptions covered in any one conversation, class, course, or workshop will be causal ones.

Causal assumptions are usually stated in two ways, the first of which is when those assumptions govern future behavior. This kind of causal assumption is usually expressed predictively, such as "if I do a, then b will happen". For example, my first year of teaching I was told "start off strict, show the kids who's boss, then you can ease off." I often tell beginning teachers "model everything you want students to do before asking them to do it." I also tell colleagues in courses I'm teaching, "We need to demonstrate what respectful disagreement looks like to students before asking them to do it." When bringing up a contentious issue such as racism I always tell myself I need to talk about my own racism before asking anyone else to start looking at theirs. These are all predictive causal assumptions; I'm assuming that if I follow them certain consequences will occur.

The second way causal assumptions are stated is retroactively, or historically. This is where we very explicitly draw on past experience and use that as a guide for future conduct. For example, I'm a guitarist, writer, and singer in a punk-rockabilly band, The 99ers (<http://the99ersband.com>) that regularly plays shows in bars, clubs, and festivals. When I construct a set list (the order of songs we're going to play live) for the evening I work on a number of causal assumptions, all of which are derived from noticing audiences' reactions to previous shows. I often start with a cover song, one the audience might recognize and like, to get their attention. We follow that with two quick tempo songs that segue straight into each other so as to create a feeling of energy. We then switch who is the lead singer on the next song to keep the audience's interest, follow that with another cover so they hear something they like and recognize, and on and on. All the assumptions I base a set list on (start with a cover because people will recognize and like it and

therefore pay attention to it, follow with a fast two-song block to keep their attention and create energy, switch vocalists to give variety, follow with another cover to regain any wandering attention) are causal. They are also all retroactive, developed after playing many different kinds of venues and seeking what consistently works best.

Here's another example drawn this time from teaching. When I teach content-heavy courses on critical theory, in which students have to read material translated from German, French, and Italian that in English is dense, jargon-ridden, and almost impenetrable at times, I often disclose to students how hard critical theory is for me to understand and how much I struggle when I read it. I'll tell them I often read and reread a paragraph for 15 minutes and that at the end of that time I have absolutely no idea of what I've just read. I do this quite deliberately because I assume many of them will have the same response to the reading that I'm describing, and I want them to know that this is normal and predictable and that it doesn't mean they're not smart or academic enough for the course. I want them to know this work is sometimes a struggle. My assumption is that if they know that I also struggle with this material then they won't be so quick to give up when they hit a rough spot. This assumption has been confirmed for me by thousands of anonymous student evaluations over the past 30 years where students specifically mention how reassuring it was for them to hear me say how I also struggled with the material.

But although this assumption is accurate for me and over the years has apparently worked to ease my students' anxieties regarding their own struggles the first time they encounter critical theory, it only works because students know that at some level they trust I *know* this stuff, I know what I'm talking about. They tell me I know my stuff for two reasons. First, because when I use examples drawn from everyday life and explain ideas in everyday language it really helps them understand an idea that otherwise seems elusive. I assume the fact that I can do this shows I really under-

stand the material inside and out. I also assume that my ability to give appropriate everyday examples that are a bridge between a difficult idea expressed opaquely and the students' own experiences and language means students trust in my teaching expertise. Second, they point to the articles and books I've published (such as *The Power of Critical Theory*) that have won international awards and that, to them, clearly signify I know what I'm talking about.

This is all by way of saying that my assumption is conditional; it works because certain conditions are in place (principally the fact that students trust in my basic command of the subject). If this condition did not exist, if I had published nothing on critical theory and found it very difficult to give meaningful everyday examples that illustrated difficult and opaque concepts, then telling students I really struggled to understand the material and often spent 15 minutes reading a paragraph and being no clearer at the end of it than at the beginning would create a very different result. Students might wonder why they were being taught by an incompetent, they may find out whether someone else was teaching another section or the same course, or they might just decide to drop out and take the course in a future semester when they could study with a different professor. This leads us to another important element in understanding critical thinking, particularly when it focuses on hunting and researching assumptions—contextuality.

Assumptions Are Rarely Right or Wrong—They Are Contextually Appropriate

Contextually appropriate—sounds like a \$50 academic term designed to impress people at academic receptions or the dean's sherry party! I use this two-word term as a shorthand way of describing a situation that takes a little longer to explain. Most of the causal assumptions that critical thinking uncovers are not always right or always wrong in some absolute or universal sense.

It is not even that they are right at some times and wrong at others. No, most causal assumptions are more or less appropriate depending on the situation that exists at any particular time. For example, starting off a 99ers gig by playing a cover song to draw in the audience only works if the audience is of an age to recognize the song or if the genre of the song is one that matches the audience's taste or if the way we play the song is either recognizable or good! A badly played cover song that people know can actually drive an audience away.

This is all by way of saying that an important element of critical thinking is doing our best to understand the conditions that are in place when we are deciding which assumptions are more or less accurate. The only chance we have of making an informed judgment about the accuracy of any particular assumption is if we have the fullest possible information about the conditions surrounding its use. Often we assume that an assumption we follow has a much broader range of accuracy than is actually the case. Let me give an example of an assumption that anyone in a leadership role has probably followed at some time:

ASSUMPTION—Giving praise for work well done motivates the person receiving the praise to work hard in the future

This is an assumption you hear a lot in leadership workshops. It is grounded in the theory of behavioral reinforcement, the notion that you shape behavior best by rewarding the behaviors you like to see, rather than punishing the behaviors you wish to eliminate. It has always seemed an assumption to me that had a wide range of generality so I've followed it when I've been in a lot of leadership roles—as a parent trying to shape the behavior of my own young children, as a teacher trying to encourage students to undertake the risky business of thinking critically and to ask critical questions of me, and as a leader in multiple contexts (football

team captain, band leader, department head, community organizer) trying to make sure people who were under my direction felt acknowledged and appreciated.

But this assumption that I have a lot of confidence in, and that I've followed many times over the years, is rendered either irrelevant or actually harmful in the following situations:

- If the praise isn't recognized as praise—to some in leadership positions not tearing a subordinate's work to pieces and publicly humiliating them is equivalent to giving praise. To the subordinate, however, this may be interpreted as one of those lucky days in which the leader forgot to notice what you were doing.
- If the praise given is *too* public—for people who grow up in collectivist cultures, where individual identity is inextricably bound up with membership of the collective, being singled out for praise is excruciatingly embarrassing. If this is the case then receiving individual public praise for doing something well will make you resolve not to do that in the future.
- If the praise is not passed on by the team leader—sometimes a leader gives praise to a team leader and asks that it be passed on to individual members. Unless the team leader follows through and tells each person how well he has done, team members are none the wiser and there'll be no desire to repeat the behavior in the future.
- If the praise is contradicted by other actions—if a leader tells team members how much she liked it when they made an independent decision but then punishes that action the next time it happens, the initial praise

is forgotten. If a team leader praises members for trying something new and taking risks but penalizes them for making mistakes when doing so, this kills the likelihood of risk-full experimentation in the future.

Summary

At the end of this opening chapter I hope you have understood the following:

1. Critical thinking is a process of hunting assumptions—discovering what assumptions we and others hold, and then checking to see how much sense those assumptions make.
2. One way we can assess the accuracy of assumptions is by trying to look at them from multiple viewpoints.
3. We do critical thinking so we can take informed actions—actions that are grounded in evidence, can be explained to others, and stand a good chance of achieving the results we desire.
4. Critical thinking can't be understood just as a process of mental analysis; it is always done for some wider purpose. So we always need to be clear what values inform critical thinking, why it's being done, and how such thinking will improve a situation.
5. The most difficult assumptions to identify and question are those embedded in dominant ideologies such as democracy, capitalism, White supremacy, patriarchy, and heterosexism.
6. Assumptions are not all the same. Three important types of assumptions are paradigmatic assumptions (assumptions that frame how we view the world), prescriptive assumptions (assumptions about how we think the world should work and

how people should behave), and causal assumptions (assumptions we have about why things happen the way they do).

7. Assumptions are rarely right are wrong; they are best thought of as more or less contextually appropriate. How accurate an assumption is will depend on the conditions that are in place when that assumption is followed.

