All We Have to Fear

Psychiatry's Transformation of Natural Anxieties into Mental Disorders

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CHAPTER 1

The Puzzle of Anxiety Disorders

Fears, worries, and apprehensions are painful and ubiquitous aspects of human existence, whether they are common or idiosyncratic, specific or diffuse, rational or irrational. Studies of the U.S. population indicate that the most common forms of psychiatric disturbances by far are various fears that, when intense, psychiatry currently classifies as "anxiety disorders": fear of public speaking, heights, or meeting new people; fears of snakes or rodents; and many other conditions where people experience intense anxiety.[1]

Moreover, it might seem as if a startling increase in the number of anxiety disorders has occurred in recent years. Consider that in 1980, the third edition of the authoritative *Diagnostic and Statistical Manual of Mental Disorders* (*DSM*) of the American Psychiatric Association stated: "It has been estimated that from 2 to 4% of the general population has at some time had a disorder that this manual would classify as an Anxiety Disorder."[2] Then, the first large community study conducted after the publication of this manual, the Epidemiologic Catchment Area Study, found that about one out of ten people had an anxiety disorder in any given year and that roughly 15% of individuals experienced these conditions at some point in their lives.[3] Just two decades later, a similar and equally rigorous study, the National Comorbidity Study Replication (NCS-R), yielded the shocking result that almost one out of five people had had an anxiety disorder over the past year, and more than a quarter of the population (28.8%) had had one at some point in their lives.[4]

Even the NCS-R actually *underestimates* the frequency of anxiety disorders, as measured by psychiatry's current criteria for diagnosing mental disorder. Because it asks people to remember years later what anxieties they had earlier in life, many respondents forget past episodes. A recent New Zealand study with substantially improved methodology that involved repeated interviews of participants established that in any given year between ages 18 and 32, nearly a quarter of all young adults (22.8%) experience an anxiety disorder and that virtually half (49.5%) report at least one such disorder during the entire period.[5] Obviously, the study would have yielded even higher estimates if it had included disorders emerging after age 32 or before age 18.

So, according to current psychiatric criteria, well over half the population suffers from anxiety disorders at some point in their lives. This estimate is roughly *twenty times* as high as the *DSM* assertion just 30 years ago. A change of this magnitude calls for an explanation—one that is lacking in the current psychiatric literature.

The very commonness of anxiety and its disorders raises many perplexing questions not just for psychiatry but also for individuals who confront their own anxieties and try to understand them and to decide what to do about their suffering. Among the questions such a person might ask are:

- How does psychiatry distinguish normal fears from disordered anxieties, and has it got the distinction right?
- If anxiety makes no rational sense, does that mean it is a psychiatric disorder?
- Is the seeming rise in anxiety disorders a real epidemic of medical disorder, a normal response to our increasingly stressful lifestyles, or perhaps an artifact of the way psychiatry's understanding of anxiety has been evolving?
- When my anxieties keep me from doing socially or personally desirable activities such as performing in a theater club, going to a party alone, or making presentations at work—or if I'm afraid of heights and won't go hiking on cliffs or won't travel by air—is there something wrong with me?

This book explores the varieties and subtleties of anxiety and grapples with the question of what distinguishes normal feelings of anxiety from disordered types of anxiousness. Most of all, we try to place the understanding of anxiety within the history and current framework of the psychiatric study of anxiety disorders. We attempt to evaluate how psychiatry confronts an amorphous, variegated human phenomenon such as anxiety and attempts to carve it into normal and disordered conditions and into a variety of distinct types of disorders. We believe that such an investigation of psychiatry's approach to anxiety can teach us much about not only anxiety itself but also how our culture takes a phenomenon and tries to classify it

into normal and disordered types in order to study and control it. We also hope to learn something about how correctly or incorrectly—or ambiguously—the definitions of normality and pathology are applied in such a classificatory process.

VARIETIES OF NORMAL FEAR AND ANXIETY

Philosophers have long emphasized that much anxiety results from pondering life's mysteries and uncertainties, as in *angst* about the inevitability of death and the meaning of existence. For most people, however, far more mundane situations—and ones much less immediately threatening than, say, a car rapidly bearing down on one in the street—create anxiousness. They become worried when they might be late for a meeting, miss a plane, park in a no-parking zone, see a police car approaching, or give a public talk. Such everyday occurrences as leaving a middle-school child at home can lead to intense worry among parent and child alike: "All the while I was out, I kept looking at my watch and listening for my phone. He called me four times in an hour: 'When are you coming home? Where are you? Are you on line yet? Did you leave the store yet?' It made me so nervous, I just browsed and left."[6] These worries are built into the structure of modern life, emerging daily or even hourly, especially among people with nervous temperaments.

Sometimes such common occurrences are powerful enough to lead to extraordinarily intense, albeit normal, periods of acute anxiety that resemble what people experience when they suffer from serious anxiety disorders. Consider the experience of the eminent psychiatric researcher Kenneth Kendler,[7] a mountain climber who has had incidents of slipping and sliding until he is literally on the edge of a precipice. At such times, he reports, he experiences feelings of fearfulness and terror along with shortness of breath and heart palpitations; these are indistinguishable from the criteria for panic disorders. Yet, Kendler observes, due to the context in which they arise, his panic symptoms do not indicate a genuine disorder but rather are an intense normal response to a genuinely threatening situation. It is only the context of Kendler's symptoms, and their transient appearance and resolution as his circumstances changed and his safety was restored, that make it possible to differentiate his normal reactions from those of a panic attack. Once Kendler's expectation of a dire outcome receded and his feet were back on the ground, his anxiety naturally disappeared.

Whenever people face life-threatening situations, their resulting fear can be severe—think of the immediate reactions of New Yorkers in the area of the 9/11 attacks and how they ran in panic from the collapsing World Trade Center towers. Soon after the 9/11 attacks, large numbers of people reported symptoms of intense anxiety, but the number of people with anxiety symptoms subsided dramatically

over the months following the attacks as people again came to feel a sense of safety. By six months after the attacks, only a negligible proportion still met criteria for an anxiety disorder.[8] The initial responses of the majority seem analogous to Kendler's symptoms and likely did not indicate a disorder at all, but instead were natural reactions to an extremely threatening situation.

Life-endangering contexts can generate a degree of normal anxiety that leads to extreme actions. One example (immortalized in a recent motion picture, *127 Hours*) is that of a hiker in a remote area whose arm got caught under a fallen rock—and who, fearing his eventual death, amputated the arm with his hunting knife in order to escape.[9] Another poignant case is that of an Israeli woman who, when terrorists attacked her house, hid with two of her children—one a 2-year-old—and watched from her hideout as the terrorists killed her husband and older son. Her young daughter started to cry, and the woman, terrified that the girl's cries would give away their hiding place and thus lead to all their deaths, placed her hand over the child's mouth to stifle any sounds. The terrorists left, but the woman's child died of suffocation as a result of the mother's actions—actions that saved two family members from dying along with the child.[10] The intense fears that provoked these extraordinary actions were nevertheless normal-range expressions given the unusually threatening situations that evoked them.

Unlike such responses to immediate—but brief—risks of death, many threatening situations are enduring. The resulting anxiety might also be chronic, yet still normal. For example, many survivors of the Hurricane Katrina disaster in New Orleans experienced anxiety symptoms that, unlike those following the 9/11 attacks, did not subside quickly because the effects of the disaster were not corrected. The lack of adequate housing, schooling, policing, and employment continued for substantial numbers of people long after the hurricane itself was gone.[11] Six months after the disaster, nearly half the residents of the New Orleans metropolitan area still reported high levels of anxiety symptoms. For most of these individuals, this persistent anxiety likely resulted from the continuing uncertainties of their living situations, not from internal psychiatric conditions. Other enduring anxiety conditions, whether they are part of an adolescent's identity crisis or an adult's midlife or empty-nest crisis, involve more amorphous and indefinable yet still powerful senses of anxiety resulting from important life challenges that may initially seem irresolvable.

At other times, it is neither immediate nor chronic dangers and uncertainties that create intense normal anxiety. Instead, some feature of the present situation triggers memories of a terrifying event that provoked such fear in the past. Such normal processes of recollecting terrifying events can quickly arouse intense anxiety and even panic. For example, the features of the 9/11 attacks, such as the roar of jet engines from low-flying aircraft, could years later still create acute feelings of anxiety

in New Yorkers. Eight years after 9/11, the Pentagon allowed a low-altitude flyover of Manhattan near the World Trade Center site for the purpose of taking publicity photos of the presidential airplane. *The New York Times*, under the headline "Jet Flyover Frightens New Yorkers," reported that the sight of the low-flying Boeing 747 speeding in the shadows of skyscrapers, trailed by two fighter jets, "awakened barely dormant fears of a terrorist attack, causing a momentary panic that sent workers pouring out of buildings on both sides of the Hudson River. . . . Some sobbed as they made their way to the street."[12] A 36-year-old brokerage worker explained, "We all ran to the window, and I thought, that's it, we're all dead. It brought back all the memories of 9/11. I said, 'I have to get out of here now!'"[13] These responses were intense, but normal, fear responses to a foolishly terrifying act that should have been predicted to trigger such memories and anxieties, given the meaning that such events would inevitably have for those who experienced 9/11.

Clearly, there are many reasons for normal fears and worries to arise and persist. "If you're not nervous," jazz musician Miles Davis reputedly said, "you're not paying attention."[14] Certain fears are appropriate responses to threatening contexts; when these contexts are severely threatening, the resulting anxiety symptoms may be intense. Other fears seem biologically prepared to be triggered easily, but only if one first experiences particular kinds of frightening events. Some fears are more cognitively acquired, such as when we learn information that some object poses a danger to us. Still other fears, such as of heights, darkness, or strangers, seem to be innate. All these varieties of normal fear and worry can arise in people who have no disorder whatsoever, but all these processes can occasionally go wrong and lead to anxiety disorders.

DISORDERED ANXIETY

Many anxiety conditions do not seem to be related in any comprehensible way to external situations, to previous terrifying experiences, or to our biological nature as a species. Take the example of the poet Emily Dickinson who, by the time she was 40, would not leave her home and hid in her room, unwilling to see even her long-time friends.[15] Nothing about Dickinson's circumstances could account for her refusal to walk outside or to meet with people she had known for extended periods of time. A great number of people ranging from Isaac Newton—who spent several years inside his house—to actress Kim Basinger have shared the fear of going out in public.[16]

Other people compulsively engage in ritualistic behaviors that seemingly have no purpose and that make them intensely anxious when their routines are disturbed: "Ms. Johnson can tell you why she needs to chew her food in sets of three

bites or drink her beverages three sips at a time. Three is her magic number."[17] Such people may have no desire to engage in their obsessions and may realize they are irrational, but they nevertheless are unable to stop their behaviors.

A more unusual set of compulsions and obsessions beset one of Freud's most famous cases, known as the "Rat Man." Freud reported the patient's presenting symptoms as follows:

> A youngish man of university education introduced himself to me with the statement that he had suffered from obsessions ever since his childhood, but with particular intensity for the last four years. The chief features of his disorder were fears that something might happen to two people of whom he was very fond—his father and a lady whom he admired. Besides this he was aware of compulsive impulses—such as an impulse, for instance, to cut his throat with a razor; and further he produced prohibitions, sometimes in connection with quite unimportant things. He had wasted years, he told me, in fighting against these ideas of his, and in this way had lost much ground in the course of his life.[18]

The patient reported that he had heard a captain in his military unit describe a particularly horrifying torture in which hungry rats were placed in a pot that was overturned onto the buttocks of a man and allowed to eat into his anus. He subsequently had obsessive thoughts that this torture was being perpetrated on his girlfriend and his father (who had already passed away). The patient developed elaborate ritualized statements and gestures to defend against these thoughts.

Although normal anxiety can be terribly uncomfortable, disordered forms of anxiety have the capacity to be some of the most painful and intolerable of all human experiences. Indeed, the sixteenth century philosopher Michel Montaigne famously noted, "The thing I fear most is fear. Moreover it exceeds all other disorders in intensity."[19] Fifteen hundred years before Montaigne, the renowned ancient physician Galen described patients who are so afraid of death that they paradoxically want to kill themselves.[20] Indeed, intense and unremitting anxiety is a risk factor for suicide.[21] Andrew Solomon, who presented his severe depressive sufferings to the public in his best-selling book *Noonday Demons*, observed that the anxiety he experienced as part of his depression in some ways frightened him more than the depression itself:

> Then the anxiety set in. If someone said to me that I had to be depressed for the next month, I would say that as long as I knew it was temporary, I could do it; the most acute hell of depression is the feeling that you will never emerge, and if you alleviate that, the

state, though miserable, is bearable. But if someone said to me I had to have acute anxiety for the next month, I would kill myself, because every second of it is so intolerably awful. It is the constant feeling of being absolutely terrified and not knowing what it is that you're afraid of. It resembles the sensation you have if you slip or trip, the feeling when the ground is rushing up at you before you land. That feeling lasts about a second-and-a-half. The anxiety phase of my first depression lasted six months. It was incredibly paralyzing.[22]

Sometimes memory, or even second-hand information, leads to fear of such intensity and duration that it seems inexplicable as a normal response. For example, some veterans returning from Iraq experience powerful flashes of terror from memories triggered by stimuli most people would perceive as harmless, but that remind them of combat experiences. There is nothing abnormal about situations that trigger such memories also triggering anxiety—in fact, one would assume this power of emotionally salient memories is an adaptive mechanism for keeping us from re-experiencing certain threats. However, sometimes the re-experiencing of the fear becomes so intense and endures so far beyond the immediate circumstances that trigger it that it renders combat-scarred vets unable to carry on with other aspects of their lives—for example, they may experience the crowds of people in a mall as a threat that triggers intense anxiety and hypervigilance, and this feeling may stay with them in a way that makes routine life tasks and relationships impossible.[23] As to the power of second-hand information when it is sufficiently unsettling, Hans Christian Andersen, after hearing about the death of a close friend in a fire aboard a ship, suffered from such an intense lifelong fear of fire that he would carry a rope with him at all times so as to make his escape should a fire trap him.[24]

But not all disordered states of anxiety involve fear of a particular action, event, or object. Sudden panic attacks when there is no obvious context or trigger, in which people not afraid of anything in particular experience heart palpitations and other symptoms that make them think they are having a heart attack and are going to die, can cripple a person's life. Generalized anxiety of a lesser intensity, where one feels anxious or worries disproportionately about various not-very-threatening concerns in contexts that do not truly explain the level of anxiety, can also make an individual miserable.

Unlike natural fears, these unfathomable symptoms—sometimes relatively harmless affectations, sometimes devastatingly distressing and impairing—cannot be explained by consideration of their context or by understandable reactions to memories of past dangers. They seem to indicate that something has gone wrong in the way our fears are aroused and sustained.

MISMATCHES BETWEEN HUMAN NATURE AND THE MODERN ENVIRONMENT

If some anxiety conditions seem to be contextually appropriate and emotionally proportionate to the direness of the situation and others seem inexplicable within their circumstances, a third type of anxiety doesn't quite seem to fit either of these categories. These anxieties are out of proportion to the actual danger in the present environment yet seem understandable as reactions that came down to us as part of our biological inheritance of fears that did make sense in the prehistoric past.

Early hominids had much to fear. The most ancient stages of human evolution featured environments where people without powerful weaponry faced numerous predators, could do little to protect themselves from harsh climates and natural disasters, and were defenseless against disease. Food was often scarce and in many environments was impossible to preserve for long periods of time. Dangers were everywhere at the same time that security from threats was weak and often unavailable. Small bands of just one or two hundred people faced other hostile groups of humans and other predators, without any government to protect them. Although a range of strategies could be adaptive for dealing with some specific circumstances, on average, vigilance, caution, and readiness to flee at a moment's notice would probably have had the greatest evolutionary payoff.

Many fears that do not seem helpful today were useful at the time that they became part of the biological nature of our species. A good example is snake phobia, a common and often intense fear. Charles Darwin recounted an incident that indicates the powerful instinctual nature of snake phobias:

> I put my face close to the thick glass-plate in front of a puff-adder in the Zoological Gardens, with the firm determination of not starting back if the snake struck at me; but, as soon as the blow was struck, my resolution went for nothing and I jumped a yard or two backwards with astonishing rapidity. My will and reason were powerless against the imagination of a danger which had never been experienced.[25]

Much evidence shows that snake fear is biologically programmed to be easily triggered in us, and the reason is not hard to see. Intense fear of snakes was valuable in the ancestral environments where snakes posed serious dangers.

Snake fear might seem outdated and useless to urban dwellers, but its value remains in those modern locations that still feature considerable numbers of snakes, such as the desert terrain of Arizona. One news story under the headline "Rattlesnakes Bite 4 Over Weekend; One Man Wanted To Pet Snake, Doctors Say," reported that snakes bit eight people in the Phoenix area over the previous week.[26]

One victim, Patrick Hotchkiss of Quartzsite, AZ, "had just stepped off his porch Sunday afternoon when he was struck. . . . 'I should've been more vigilant. Usually I am,' said Hotchkiss. . . . Some of the other victims were gardening or hiking. One child was playing in a yard." Some of the bites occurred under odd circumstances that vividly illustrate the danger of having no fear of snakes:

> But others got closer than they should have. Doctors said one man was bitten on the hand after trying to pet a snake. They said the man had been drinking prior to the incident. "We've seen several people who've tried petting the snakes, and even on occasion people trying to kiss the snake. Any of those things usually result in the patient getting bitten," said Dr. Michael Levine, a toxicologist at Banner Poison Control Center.

Obviously an innate tendency to develop a fear of snakes might still be a good thing in those environments that snakes inhabit. No matter how inexplicable a fear of snakes might seem at first in an apartment dweller in Manhattan, the fear is quite understandable when placed within the context of our development as a species and the biological nature that evolutionary shaping imparted to us. Some of these natural fears are rooted in immediately perceived real dangers, others in our memories of past dangers that influence our present expectations, and still others in our species' history of natural selection that shaped our fear for dealing with dangers that existed in ancestral times but that no longer pose threats.

But some emotions that were adaptive during this evolutionary period were genetically transmitted to future generations for whom, rather than being protective, they might instead be a constant source of needless distress, suffering, and impairment. Consider the anxiety of the popular former sports announcer John Madden, who, like many people, is terrified of air travel. Despite having to travel long distances almost every week, Madden would never fly but always used buses that were far more inconvenient and time-consuming. Given that flying is many times safer than driving, Madden's intense fear might seem to be as inexplicable as Emily Dickinson's unwillingness to see her friends, but many people tend to be afraid of flying, and their fear seems to make a certain amount of sense in terms of human nature, though not in terms of what is currently rational. Of course, air travel is an invention that did not exist at the time humans evolved, so fear of air travel in and of itself is not a biologically shaped fear. Rather, air travel happens to have several features that human beings were shaped to fear. Intense fear of being at extreme heights where falling would mean death and of entering enclosed spaces where escape is impossible might have been adaptive in ancient periods when such places were genuinely dangerous and to be avoided. Fear of being passive and out of control while facing such anxieties might additionally be naturally anxiety-provoking. People who had fears that motivated them to stay away from such situations

might have avoided the occasional disaster and thus passed on to their descendants genes that made them more fearful of entering enclosed spaces, climbing to higher altitudes, and not being in control. Madden's fear could thus reflect the natural, if no longer constructive, operation of such biologically designed psychological mechanisms. Its evolutionary origin would explain why a substantial percentage of the population shares this fear, even if many people manage to overcome it and, unlike Madden, continue to fly.

Air travel is extremely unlikely to pose the risk of falling from a height or finding oneself trapped by a predator in an enclosed space. Such fears are at the same time natural and yet no longer adaptive in most modern environments. They are an unfortunate mismatch between anachronistic but natural emotions that once were functional and our modern, technologically transformed environment.

Yet, sometimes the manifestation of archaic fears in current circumstances does indicate a dysfunction. For example, some snake fears are so great and so beyond a level of rationality or control that they must be considered disorders. Some urban dwellers have such an intense fear of snakes that the phobia may impair their lives despite hardly ever coming into contact with a snake. Images of snakes in movies or magazines, or mere thoughts of snakes, may be intensely anxiety-provoking, and overwhelming fear of encountering a snake may cause such people to avoid situations in which there is even the smallest chance of seeing a snake. This may keep them from traveling or enjoying outdoor activities such as hiking or swimming in ponds, or even gardening in their own backyards. Arguably these are cases of a natural fear going wrong in some way so as to become a disorder that undermines basic functioning.

INDIVIDUAL VARIATION

The ubiquity of innate fears that are not necessarily adaptive in modern life provides one answer to the question of why anxiety disorders seem to be so common. When fears of crawling animals, flying, strangers, or public speaking are considered to be pathological, rates of anxiety disorders will soar because humans were naturally designed to have such fears. A second reason why so much fearful behavior can readily be classified as disordered is that individual tendencies to express anxiety vary continuously. People who are naturally at the high end of this temperamental continuum can be mistakenly classified as having anxiety disorders.

While it is easy to talk in generalities about anxiety, as if all people share the same basic anxieties, the fact is that the sources and intensity of anxiety vary to a remarkable degree from person to person, constituting individualized "fear maps." Different individuals make different kinds of fear assessments of environmental contexts

and have different thresholds that activate fear responses.[27] Moreover, people differ in their ability to exert control over their anxious emotions. The great amount of individual variation in emotionality creates a source of ambiguity in distinguishing between normal and pathological psychological states. One might ask regarding biologically designed fears: Why, if it was selected, isn't everyone equally afraid? If such fears are "part of human nature," then why doesn't everyone experience such anxiety? Why didn't evolution converge on one optimal value or a narrow range of values for everyone?

Consider the remarkable normal human variation around one of the most universal fears: height. Indeed, some major tourist attractions capitalize on people's desires to experience the intense anxiety of being at extreme heights while standing on glass surfaces that provide the impression of great instability. For example, one website describes the Sears Tower (currently the Willis Tower) in Chicago as:

> . . . new glass enclosures that extend 4.3 feet beyond the side of the building. Beneath peoples' feet lies the sprawling Illinois city—103 stories, or 1,353 feet, below. Just an inch-and-a-half of glass separates the visitor from the street underneath.

In fact, it is unreasonable to be afraid of walking on such glass surfaces, which are completely safe marvels of engineering (see Figure 1.1).

The comments about this attraction posted on a website that displayed a picture of one of these new transparent spaces demonstrate both the naturalness of fear of heights and the stark individual differences in this fear in reaction to the photo or to their actual experiences. While many people are terrified by the idea of walking on solid glass over an abyss under their feet, even though it is secured by steel, many others are comfortable hanging in the air with no apparent protection:

> I can barely even look at the picture. I certainly couldn't stand on it. It gives me vertigo just thinking about it.
> Its [sic] awesome, but I near crapped myself when the cube moved.
> Now that's scary.
> HA! Not a chance in hell you'd get me out on that thing.
> That would scare me to death as well.
> Never in a million years would I dare to do that.

However, scattered among the overwhelmingly fearful comments were other less terrified and even positive feelings:

> Oooh, I would like to stand there!
> cool image, cool idea.

Figure 1.1: Picture of Willis Tower, used with permission from Free Software Foundation.

But even some who had tried it out expressed some degree of cautiousness at the same time:

> I did eventually, and very carefully[,] ease my way out onto the glass abyss.
> I stood on the one in the CN Tower in Toronto. Just be ready.

These thoroughly diverse reactions show how many of our most intense fears, even those that are innate, affect individuals to a greater or lesser degree. While all people have certain innate fears, the diversity of their temperaments and experiences leads to great diversity in how much they are able to suppress these fears over time.

The basic challenge humans face is not to avoid acquiring fears—they are largely part of our nature—but rather to learn how to overcome the many currently useless innate fears that we experience. "It is less a matter of acquiring fears of the dark and of strangers," according to psychologist Stanley Rachman, "than of developing the necessary competence and courage to deal effectively with the existing predispositions or actual fears."[28] Adequate criteria for anxiety disorders must take into account normal human variation in anxiousness and must separate genuine pathology from both high-end anxious temperaments and low-end skilled suppression or endurance of natural fears.

CULTURAL VARIATION

An additional source of variation in anxiety—and correspondingly a source of difficulty in setting boundaries between normal and pathological anxiety—has to do with cultural variation. The capacity to experience emotions is biologically given; the architecture of the brain sets the general parameters for psychological functions. Yet, evolution has also designed humans to be sensitive to culture: people are, in essence, hard-wired to be attuned to processes such as valued cultural goals, social comparisons and evaluations, and social hierarchies.[29] Consequently, recognizing what is a normal-range emotional response often requires a knowledge of the individual's cultural context.

While evolution programmed anxious emotions to arise in threatening and uncertain situations, culture helps define what particular objects and situations people consider to be dangerous, what cues activate their fear responses, and what sorts of things they worry about as well as the degree of intensity or duration with which one should respond. For example, while witchcraft is a common source of anxiousness in many African societies, it is unlikely to be a source of fear in modern Western cultures.[30] Witch fear is seen as reasonable in the former but not the latter. Fears of being buried alive dominated nineteenth century consciousness in the United Kingdom and United States but would be extremely rare at present [31]; conversely, food allergies, a rare source of anxiousness in the past, are a dominant source of worry in the contemporary United States. Criteria for anxiety disorders face the challenge of avoiding pathologizing culturally appropriate fears that result from normal human emotional malleability in response to cultural environments.

Moreover, social structures and values shape the degree of harm that any given state of anxiousness produces, or is considered to produce. For example, the impairments of social and occupational functioning that psychiatry uses to demarcate social phobias from intense shyness emerge only when group norms reward social engagement and outgoing styles of interaction.[32] Social phobias are less likely to be

harmful in groups that value restrained styles of sociability. When impairment is the criterion used to distinguish normal shyness from social phobia, identical conditions that are viewed as normal in one context can be judged as disordered in another. Indeed, a culture may simultaneously subject its members to naturally anxiety-provoking experiences and then judge as disordered those who cannot adequately suppress the resulting natural anxiety. For example, our own culture frequently demands that people in certain occupations engage in public speaking to groups of strangers; if this activity provokes intense anxiety, as it is probably biologically shaped to do, our culture then judges that anxiety to be a form of social phobia.

What is appropriate or inappropriate psychological functioning is thus partly biological but also partly cultural. Cultural definitions influence what emotions are considered to be suitable and unsuitable, excessive or deficient, and balanced or unbalanced in given situations. This is why it is difficult and perhaps impossible to define mental disorders without using terms such as "excessive," "unreasonable," "inappropriate," and the like to reflect deviation from sociocultural standards that vary substantially across different cultural contexts. Such terms are not just placeholders until more knowledge is obtained; they are inherent aspects of definitions of anxiety disorders because cultural definitions are an irreducible component of the contextual factors that partially determine whether a fear or anxiety is likely normal or disordered.

We began this chapter by asking the question of how rates of anxiety disorders could have risen by as much as twentyfold over the past thirty years to encompass as much as over half the population. The discussion above indicates some preliminary answers. For reasons later chapters explore in depth, the psychiatric profession developed diagnostic criteria that did not adequately distinguish evolutionarily natural fears from true anxiety disorders. Moreover, these criteria lent themselves to pathologizing people with high-end, but naturally anxious, temperaments that are within normal range rather than disordered. Finally, the criteria did not sufficiently grapple with how culture can shape definitions and expressions of anxiety. The seeming pervasiveness of anxiety disorders results from considering evolutionary normal but currently maladaptive fears, high-end anxious temperaments, and culturally appropriately triggered expressions all as signs of anxiety disorders.

DSM CATEGORIES OF ANXIETY DISORDERS

A central task of this book is to consider whether the current criteria the psychiatric profession uses to diagnose anxiety disorders are adequately separating pathological from natural anxiety. These criteria are found in the *Diagnostic and Statistical*

Manual of Mental Disorders, 4th Edition, Text Revision (DSM-IV-TR). In abbreviated form, the eight primary categories of anxiety disorder are as follows[33]:

Specific phobia is a "marked and persistent fear that is excessive or unreasonable, cued by the presence or anticipation of a specific object or situation (e.g., flying, heights, animals, receiving an injection, seeing blood)."[34]

Social phobia or *social anxiety disorder* is "a marked and persistent fear of one or more social or performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others. The individual fears that he or she will act in a way (or show anxiety symptoms) that will be humiliating or embarrassing."[35]

Agoraphobia is "anxiety about being in places or situations from which escape might be difficult (or embarrassing) or in which help may not be available in the event of having a Panic Attack or panic-like symptoms. Agoraphobic fears typically involve characteristic clusters of situations that include being outside the home alone; being in a crowd or standing in a line; being on a bridge; and traveling in a bus, train, or automobile. The situations are avoided (e.g., travel is restricted) or else are endured with marked distress or with anxiety about having a Panic Attack or panic-like symptoms, or require the presence of a companion."[36]

Panic disorder is characterized by "recurrent unexpected Panic Attacks about which there is persistent concern. A Panic Attack is a discrete period in which there is the sudden onset of intense apprehension, fearfulness, or terror, often associated with feelings of impending doom. During these attacks, symptoms such as shortness of breath, palpitations, chest pain or discomfort, choking or smothering sensations, and fear of 'going crazy' or losing control are present. . . . The attack has a sudden onset and builds to a peak rapidly (usually in 10 minutes or less) and is often accompanied by a sense of imminent danger or impending doom and an urge to escape"; accompanying symptoms may include "palpitations, sweating, trembling or shaking, sensations of shortness of breath or smothering, feeling of choking, chest pain or discomfort, nausea or abdominal distress, dizziness or lightheadedness, derealization or depersonalization, fear of losing control or 'going crazy,' fear of dying, paresthesias, and chills or hot flushes."[37]

Posttraumatic stress disorder is the development of characteristic symptoms following exposure to an extreme traumatic stressor involving direct personal experience of an event that involves actual or threatened death, serious injury, or other threat to one's physical integrity; witnessing an event that involves death, injury, or a threat to the physical integrity of another person; or learning about unexpected or violent death, serious harm, or

threat of death or injury experienced by a family member or other close associate (Criterion Al). The person's response to the event must involve intense fear, helplessness, or horror (Criterion A2). The characteristic symptoms resulting from the exposure to the extreme trauma include persistent re-experiencing of the traumatic event (Criterion B), persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness (Criterion C), and persistent symptoms of increased arousal (Criterion D).[38]

Acute stress disorder is "the development of characteristic anxiety, dissociative, and other symptoms that occurs within 1 month after exposure to an extreme traumatic stressor. . . . [T]he individual has at least three of the following dissociative symptoms: a subjective sense of numbing, detachment, or absence of emotional responsiveness; a reduction in awareness of his or her surroundings; derealization; depersonalization; or dissociative amnesia"; In addition, "the traumatic event is persistently reexperienced (e.g., recurrent recollections, images, thoughts, dreams, illusions, flashback episodes, a sense of reliving the event, or distress on exposure to reminders of the event). Second, reminders of the trauma (e.g., places, people, activities) are avoided. Finally, hyperarousal in response to stimuli reminiscent of the trauma is present (e.g., difficulty sleeping, irritability, poor concentration, hypervigilance, an exaggerated startle response, and motor restlessness)."[39]

Obsessive-compulsive disorder consists of either obsessions or compulsions. Obsessions are "recurrent and persistent thoughts, impulses, or images that are experienced, at some time during the disturbance, as intrusive and inappropriate and that cause marked anxiety or distress," that "the person attempts to ignore or suppress," but are "not simply excessive worries about real-life problems." Compulsions are defined as "repetitive behaviors (e.g., hand washing, ordering, checking) or mental acts (e.g., praying, counting, repeating words silently) that the person feels driven to perform in response to an obsession, or according to rules that must be applied rigidly," where "the behaviors or mental acts are aimed at preventing or reducing distress or preventing some dreaded event or situation; however, these behaviors or mental acts either are not connected in a realistic way with what they are designed to neutralize or prevent or are clearly excessive."[40]

Finally, *generalized anxiety disorder* (GAD) consists of "excessive anxiety and worry (apprehensive expectation), occurring more days than not for a period of at least 6 months, about a number of events or activities," where "the individual finds it difficult to control the worry. . . . The anxiety and worry are accompanied by at least three additional symptoms from a list

that includes restlessness, being easily fatigued, difficulty concentrating, irritability, muscle tension, and disturbed sleep."[41]

The *DSM* employs several typical strategies that attempt to distinguish pathological anxiety disorders from normal anxiety. First, the criteria for each condition list a variety of symptoms that indicate the possible presence of the disorder. Second, they require the presence of a sufficient number of symptoms from the defined group, mandate that the anxiety is "marked" and thus possesses a sufficient degree of severity, and indicate a necessary duration of symptoms. Third, in order to exclude trivial, transient, and innocuous anxiety states from disordered status, they indicate that only symptoms that have distressing or impairing consequences are disorders. Finally, the anxiety disorder criteria commonly contain qualifiers such as "excessive," "unreasonable," "inappropriate," or "unexpected" that attempt to differentiate disordered symptoms from natural fears and worries. For example, phobic disorders involve "unreasonable" or "excessive" symptoms, obsessions in obsessive-compulsive disorders are "intrusive" and "inappropriate," and obsessive-compulsive symptoms generally are "excessive or unreasonable." These terms indicate a clear recognition that symptoms alone cannot separate anxiety disorders from natural concerns but must be placed in their contexts.

Despite the *DSM*'s extensive efforts to separate normal from pathological anxiety, the criteria sets raise many questions about how to best draw the lines that distinguish normal and pathological conditions. The remaining chapters of this book will consider a number of general issues about the great complexity involved in establishing boundaries between natural and abnormal states of anxiety.

SOME QUESTIONS ABOUT ANXIETY

Anxiety's ubiquity, diversity, variety of etiological pathways, widely varying levels of intensity in the population, and complex relationship to personal and species histories raise a number of challenging questions about the nature of the normal and the pathological and how we should respond to them. These questions include the following:

1. *What is the basis for distinguishing between natural fears and anxiety disorders—that is, what is the definition of "normal" when it comes to anxiety?* Sometimes anxiety symptoms are natural, designed responses to dangerous situations, but at other times they indicate mental disorders. Definitions of disorder must clarify what distinguishes anxiety disorders from realistic worries, concerns, and fears. We strive to understand whether there is a sharp boundary

(so that in principle we can always tell whether anxiety is normal or disordered), or if the distinction is essentially fuzzy and indeterminate, with vague borders and some gaps. If there is considerable fuzziness, are there nevertheless clear cases on both sides, or is the distinction between normal and disordered anxiety basically arbitrary?

2. *Should anxiety that is grounded in evolutionarily normal fear mechanisms but that is maladaptive in current environments be seen as a disorder or as an unfortunate but normal aspect of human nature?* This is a question about how we should think about "mismatches" between what we fear and what is rational to fear in our current environments. Fears of darkness, wild animals, heights, enclosed spaces, or public speaking are neither reasonable nor particularly useful to most people at present but might nevertheless be programmed into the human genome. Can distinguishing presently irrational natural fears from disorders enhance our understanding of the causes, prognoses, and treatments of both kinds of conditions, or should they be lumped together as disorders?
3. *Do current conceptions of anxiety disorders have misleading implications for research about the causes of anxiety disorders?* The DSM categories of anxiety disorders might poorly reflect genuinely disordered types of brain states: They could lump together people with dysfunctional fear mechanisms, those whose fear mechanisms are normal but who become anxious in situations that are no longer dangerous in modern environments, and some who are higher than average in their normal anxiety responses. Conflating natural and pathological conditions into a single category might make it difficult for research into the causes of anxiety disorders to reach valid or useful conclusions.
4. *Given the ambiguous boundaries between normal fears, anxiety disorders, and environmental mismatches, how do social groups actually come to determine the dividing lines between these conditions?* Nature might not set any distinct lines between normal and pathological anxiety conditions. This would create opportunities for interested social groups to set distinctions among various categories along a wide range of possibilities. What kinds of social and diagnostic considerations influence such decisions?
5. *To what extent do current official psychiatric diagnostic criteria get the distinction between normal and disordered anxiety right, and how do they classify the ambiguous cases?* If the current criteria are flawed, can evolutionary theory help improve current diagnoses of anxiety disorders so that they can better distinguish true anxiety disorders from normal fears and worries?
6. *Can statistics about the number of people in the community with untreated anxiety disorders that stem from these criteria be believed, or are they the result of*

pathologizing natural emotions? Community studies might be especially prone to mistakenly classify both proportionate and mismatched anxious states as anxiety disorders. An evolutionary view can help avoid inflated estimates of disordered conditions.

7. *Can more adequate definitions of anxiety disorders help resist the pathologization of natural emotions*? Drug companies and other interests can exploit the ambiguity and inadequacy of the *DSM* anxiety criteria to maximize the perceived amount of pathology. Their advertisements use widespread worries and concerns that naturally develop in families, schools, and workplaces as examples of anxiety disorders. This might entice viewers to see these conditions as needing pharmaceutical correction. An evolutionary approach to natural versus disordered anxiety can offer a conceptual basis to help restrain such excesses.
8. *Does the medicalization of anxious emotions have more benefits than costs*? It is especially important to distinguish disordered from natural anxiety because threatening situations and consequent anxiousness are omnipresent aspects of human existence. In the absence of a good definition of anxiety disorders, the pervasiveness of anxiety can potentially lead to a massive pathologization of normal emotions when anxiety symptoms are equated with disease. Yet, setting boundaries that enlarge the range of pathology also encourages people to seek medical treatment for their anxiety conditions and, possibly, to get relief from them. Do these benefits override the costs of viewing natural emotions as pathologies?
9. *To what extent does the disordered status of a condition affect the desirability and type of treatment that is warranted*? Normal worries and mismatched emotions, as well as anxiety disorders, create distress and impairment. Does separating these conditions suggest different therapeutic options? In particular, do mismatched but natural anxieties that are not disorders—but that are currently maladaptive—warrant treatment?

The remainder of this book explores the nature of anxiety and the anxiety disorders in order to address these perplexing questions about the distinctions between normal fears and anxiety disorders and to better understand the varieties of maladaptive anxiousness.

TERMINOLOGY

To avoid confusion in subsequent discussions, a comment is necessary about the challenging issue of terminology when speaking of fear, anxiety, and their disorders.

"Fear," which derives from the Old English word *faer*, indicating a sudden calamity or danger, is the term typically used to refer to an emotion that arises in response to a particular danger in the environment.[42] Fear is generally assumed to have some object: if someone is afraid, he or she is afraid of something, as in fear of snakes, flying, or strangers. Fear consists of an unpleasant state of bodily arousal, presumably serving to prepare the individual for quick and vigorous action to elude the danger, accompanied by a focusing of the mind's attention on the perceived danger. Thus, the fear of a certain danger is directed at the danger. When it seems appropriate, we use terms such as "worry" or "concern" as rough synonyms for less intense fears. All of these terms share the same presupposition that they have some content that refers to an object; one fears or is worried or is concerned about something.

The distinction between fear and anxiety has been drawn in a variety of ways. Sometimes, it is based on the immediacy of the situation; while the emotion of fear arises in response to a specific and immediate danger, anxiety sometimes refers to some danger that is farther in the future.[43] In this usage, anxiety refers to what might happen, not to an existing danger. For example, people would be afraid when they see a snake but would be anxious if worrying that a snake might appear around the next bend of a path. However, such temporal usage is not at all uniform. For example, Freud—who coined the use of the term "anxiety neurosis" in medicine—employed the term "primary anxiety" to refer to fear that develops during actual confrontations with danger, in contrast to "signal anxiety," which is a response to the expectation of some future danger.[44] However, some thinkers have placed fear in general as a reaction anticipating the future, as in Socrates' definition of fear as "expectation of evil." In such an approach, even the fear of an immediate threat is always a fear of what is likely to happen next as a result of the threatening object, and thus is in fact a feeling about the future.[45]

A second use of "anxiety" refers to broader fearful emotions—though not entirely undirected—that are about such issues as the meaning of life, human mortality, or uncertainty about major issues or conflicts. For example, the Danish philosopher and psychologist Soren Kierkegaard developed a conception of anxiety (*Angst*) that refers to a generalized anticipation of the future.[46] Kierkegaard distinguished between fears that have specific objects and the natural emotion of *Angst* that stems from thinking about eternal dilemmas of human existence. This distinction corresponds to the notion that people *have* fears, whereas they *are* anxious.[47] Kierkegaard emphasized both the normality and the universality of anxiety: "Deep within every human being there still lives the anxiety over the possibility of being alone in the world, forgotten by God, overlooked by the millions and millions in this enormous household."[48] For Kierkegaard, anxious

despair over such universal concerns as the existence of God, the inevitability of death, and the threat of meaninglessness was a natural part of the human condition. The German philosopher Martin Heidegger vividly described this sense of anxiousness when he said that the "breath" of anxiety "quivers perpetually through human existence."[49]

Another use of "anxiety"—perhaps the most common in psychology—refers to a type of bodily arousal that involves feelings of dread or fear without necessarily implying that the individual is conscious of a threat.[50] So, unlike fear, anxieties need not be, at least consciously, directed at any particular object or be about any particular thing. Instead, anxiety is a threat that emerges from internal sources and is not attached to a specific object. The feeling of anxiety is similar to the feeling one has when one is afraid of something; that is, fear simply consists of anxiety that is directed at an object. Anxiety, therefore, is just the feeling of fear but is sometimes directed at something concrete and at other times is an undirected feeling of plain anxiety that is unattached to any object.

"It will not have escaped you," Freud aptly noted, "that a certain ambiguity and indefiniteness exists in the use of the word anxiety."[51] To minimize such ambiguity, we use "fear" (and sometimes "worry" or "concern") to refer to an emotion directed at some object, and "anxiety" as a more inclusive term that refers to any experience of the feeling of anxiety either by itself (undirected at any object) or as part of an emotion of fear (directed at an object). In our usage, anxiety is a feeling that can either be free-floating, vague, and/or amorphous, or can take the form of a concrete fear directed at some immediate or future threat.

According to this usage, both fear and anxiety can be normal or disordered, and fear disorders—as in the *DSM*—are anxiety disorders. We use the term "fear disorders" to refer to disorders in which the feeling of anxiety toward some particular object or situation is misdirected or overly intense, as in phobias. "Anxiety disorders" encompass both disorders of fear, where there is an object at which the feelings are directed, and disorders of the sheer feeling of anxiety without any object at which it is directed, as in panic attacks and certain forms of generalized anxiety disorder. As shorthand, because most (but not all) normal anxiety conditions are fears rather than undirected anxiety, we sometimes distinguish the normal from the disordered by the phrases "natural fears" or "realistic worries" versus "anxiety disorders."

In sum: When we refer to a disordered condition of the fear response, like the *DSM* we generally use the term "anxiety disorder." Because most normal fear responses involve awareness of the object at which the fear is directed, when writing of normal conditions we will generally use the terms "fear" or "worry." Finally, the terms "anxiety" or "anxiousness" without a qualifier such as "disorder" refer to the general emotion that is sometimes natural and sometimes disordered.

CONCLUSION

Developing adequate distinctions between normal and disordered fears is fraught with complexity. Nevertheless, the activities of psychiatry and allied mental health fields must be based on the best possible definitions of normality and pathology. Grounding the classification of anxiety and its disorders in their evolutionary underpinnings provides a good starting point for a fruitful understanding of anxiety.