

American Handbook of Psychiatry

ANXIETY:

Signal, Symptom, and Syndrome

JOHN C. NEMIAH

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Table of Contents

ANXIETY: SIGNAL, SYMPTOM, AND SYNDROME

Clinical Aspects of Anxiety

The Nature of Anxiety

Differential Diagnosis

Treatment

Bibliography

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John C. Nemiah

In *The Anatomy of Melancholy*, that vast, quixotic, and entrancing early seventeenth-century lumber room of psychiatric lore, Robert Burton speaks of fear as “cousin-german to sorrow ... or rather a sister, *fidus Achates*, and continual companion, an assistant and a principal agent in procuring of this mischief; a cause and symptom as the other.”

Many lamentable effects, [he continues] this fear causeth in men, as to be red, pale, tremble, sweat; it makes sudden cold and heat to come over all the body, palpitation of the heart, syncope, etc. It amazeth many men that are to speak or show themselves in public assemblies, or before some great personages. . . . It confounds voice and memory. . . . Many men are so amazed and astonished with fear, they know not where they are, what they say, what they do, and that which is worst, it tortures them many days before with continual affrights and suspicions. It hinders most honorable attempts, and makes their hearts ache, sad and heavy. They that live in fear are never free, resolute, secure, never merry, but in continual pain: that as Vives truly said, *Nulla est miseria major quam metas*, no greater misery, no rack, nor torture like unto it; ever suspicious, anxious, solicitous, they are childishly drooping without reason. . . . It causeth oftentimes madness, and almost all manner of diseases. Fear makes our imagination conceive what it list, invites the devil to come to us . . . and tyranizeth over our phantasy more than all other affections, especially in the dark.

Burton has included in his crowded sentences most of the phenomena

associated with anxiety, an eloquent witness to the fact that human nature changes little, if at all, over the centuries. Burton wrote about what he read and what he saw, and was content to remain an empirical reporter of the varieties of human emotional suffering. Since his time, anxiety has been reified, deified, and vilified. Impossible to define with any precision, it has been viewed as the mere awareness of a physiological state, as a central force in mental functioning, as the ontological core of man's being, and it has been denied any existence at all. In the midst of what has been proudly proclaimed "The Age of Anxiety," the anxiety neurosis, to which Freud gave birth in 1895, has recently been quietly laid to rest as "excess baggage," a "colorful metaphor" in the "romantic mystique" of psychoanalysis. It is, therefore, with some diffidence, not to say anxiety, that one approaches a systematic exposition of such an elusive subject.

Clinical Aspects of Anxiety

The psychiatric clinician, forced by his patients' complaints to pay attention to their subjective woes, has long been aware that anxiety is a major source of human discomfort. If he has been less critically precise in his conceptualizing than his more scientifically minded colleagues, he has at least tried accurately to record and describe what his patients have told him and what he has observed, and it is to the clinician we must go for a broad operational definition. In what follows we shall briefly review the historical

evolution of clinical knowledge about the emotion of anxiety as a prelude to a consideration of its general characteristics and of its more specific relation to the anxiety neurosis.

Historical

Hysteria and hypochondriasis (the latter long considered to be the male counterpart of hysteria) had for centuries been recognized as clinical entities, but it was not until the nineteenth century that clinical investigators began to focus on the more discrete, nonpsychotic symptom complexes of neurasthenia, the phobias, obsessions, and compulsions. Janet was perhaps the first to try to systematize these in a comprehensive scheme of classification. In his view, there were two major categories: *hysteria*, which included all of the classical mental and sensorimotor dissociative phenomena, and *psychasthenia*, a congeries of all the other neurotic manifestations parceled out by modern diagnosticians among the various psychoneuroses.

Among Janet's multitude of case histories (which are often unusually full, detailed, and vivid) there are reports of several patients suffering from anxiety, but in his experience this was rarely found in pure culture. On the contrary, it was generally part of a larger complex of symptoms, including obsessions, compulsions, tics, phobias, and a wide spectrum of hysterical phenomena. Of the one hundred and fifty-odd patients whom Janet described

in *Les Neuroses et Idées Fixes*, only one manifested anxiety alone, a woman of thirty-nine, who developed a heightened emotional responsiveness to minor stimuli following the serious illnesses of her husband and son.

If you saw her during a period of calmness [writes Janet] you would not detect any pathological symptom, all of her organs functioning normally: there is no apparent nervous difficulty or anesthesia—in the special senses, the skin, the muscles, and, as far as one can determine, there is no disturbance in visceral sensation. She feels well, although greatly fatigued, has no headache, and no change in memory or her thought processes. But for this state of well-being to continue, it is necessary, as she says herself, “that nothing happens”—that is to say, every occurrence, no matter what, causes an upset. When someone goes in or out, when someone speaks to her, or does not speak to her, when her children cough or sniffle, when a carriage passes, etc., she very shortly experiences phenomena that are always identical: she senses a tightness in her throat along with a desire to cry, and feels suffocated and labored breathing as in an attack of asthma. Her stomach and lower abdomen become distended, she trembles, has palpitations, and breaks into a cold sweat, etc. Simultaneously her thoughts become vague and seem to escape her. She is afraid of something without knowing what it is. The attack generally lasts for a short time, a half hour or so; she cries copiously, which eases her, and finally becomes fairly calm until the next emotional outburst (which is triggered off by anything at all) occurs within an hour or two.

It was Freud who first suggested that anxiety belonged to a diagnostic entity *sui generis*, which he termed *anxiety neurosis*, “because all of its components can be grouped round the chief symptom of anxiety.” Particularly to be distinguished from neurasthenia, of which it had been considered to be a part by earlier clinicians, its symptoms comprised general irritability, anxious expectation, and gastrointestinal symptoms (particularly diarrhea) as

its more chronic manifestations, on which were superimposed acute attacks accompanied by a variety of somatic symptoms.

An anxiety attack of this sort [wrote Freud] may consist of the feeling of anxiety, alone, without any associated idea, or accompanied by the interpretation that is nearest to hand, such as ideas of the extinction of life, or of a stroke, or of a threat of madness; . . . or, finally, the feeling of anxiety may have linked to it a disturbance of one or more of the bodily functions —such as respiration, heart action, vasomotor innervation or glandular activity. From this combination the patient picks out in particular now one, now another, factor. He complains of “spasms of the heart,” “difficulty in breathing,” “outbreaks of sweating,” “ravenous hunger,” and such like; and, in his description, the feeling of anxiety often recedes into the background or is referred to quite unrecognizably as “being unwell,” “feeling uncomfortable,” and so on.

Although his concept of the central role of anxiety in psychic functioning was accepted by psychoanalysts, and anxiety itself was generally recognized as a neurotic symptom by clinical psychiatrists, Freud’s proposal of anxiety neurosis as a distinct diagnostic entity was slow to catch on, and it was not until the 1930s, especially in American texts, that the term “anxiety neurosis” began to be used with any regularity. Medical experience with military personnel during World War II was a major factor in subsequently sensitizing clinicians at large to the prevalence and importance of anxiety in human illness, and since that time “anxiety neurosis” (or “anxiety reaction”) has been a standard diagnostic category in both the *Diagnostic and Statistical Manual of Mental Disorders* of the American Psychiatric Association and the *International Classification of Diseases* promulgated by the World Health

Organization.

One further fact of historical interest must be mentioned. In 1871, J. M. DaCosta published an article in the *American Journal of the Medical Sciences* in which he described a “functional disorder of the heart” to which he gave the name “irritable heart.” On the basis of his clinical experience with soldiers in the Union Army during the Civil War, he described a syndrome characterized by precordial pains, palpitations, and giddiness, occurring either when the patient was at rest, or following slight exertion. He attributed the condition to a “disordered innervation” of the heart, resulting from periods of “excitement” in the patient and leading to cardiac “over-action.” “Irritable heart,” or “DaCosta’s Syndrome,” as it was also termed, was subsequently described during the Franco-Prussian and Spanish-American Wars, and in World War I a new label, “Disordered Action of the Heart” (“D.A.H.”) was attached by internists to the same symptom complex. Although they were unable to assign a specific etiology to the disorder, they were evidently unaware of Freud’s earlier comment that “the feeling of anxiety may have linked to it a disturbance of one or more of the bodily functions,” and they classified the syndrome as a “functional” cardiac illness without recognizing it as being psychogenic or related to anxiety.

Epidemiological Considerations

These excursions into the past have an important bearing on the epidemiology of the anxiety neurosis. Although transient anxiety as a symptom is widespread, it is (as with the neuroses generally) virtually impossible to determine the true incidence of the specific disorder itself in the population at large, partly because it is rarely severe enough to require psychiatric hospitalization, partly because patients suffering from the symptoms are often treated by private medical physicians or psychiatrists from whom statistics are unavailable, and partly because the syndrome is still not infrequently misdiagnosed as a cardiac disorder. At the same time serious doubt must be cast on the notion that anxiety is more characteristic of contemporary society than that of previous generations. It has been said, for example, that anxiety constituted a major portion of the psychiatric casualties in World

War II in contrast to those of World War I, which were primarily hysterical in nature. Consider, however, the fact that during World War I there were 60,000 cases of "Disordered Action of the Heart" in the British Army alone. Diagnosed by internists unaware that they were dealing with anxiety, these patients were viewed as suffering from a cardiac disorder, and the fact that their problem was neurotic anxiety went unnoticed and unrecorded. It was not that anxiety was absent, but that it was unrecognized.

General Characteristics of Anxiety

From the glimpses we have had of it thus far, it is clear that anxiety has many faces. Its several major features must be made explicit here:

1. Anxiety may be viewed either as a symptom, or as a specific neurotic syndrome. As a symptom, it is found to a greater or lesser degree throughout the entire spectrum of psychiatric disorders. Thus, it is a central feature of the phobic neurosis, is a common accompaniment of the obsessive-compulsive neurosis, is frequently seen in patients with depression, especially of the agitated variety, and often is associated with the early stages of schizophrenia. In the syndrome of anxiety neurosis, it constitutes the central and predominant symptom, and is characteristically “free-floating” in nature—that is, the patient experiences anxiety without any evident reason for it or without its being referred to any object or situation.
2. Anxiety may be either acute, occurring in discrete attacks, or chronic, or a mixture of both, the attacks arising out of a background of longer-lasting, less intense symptoms.
3. The manifestations of anxiety are both somatic and experiential. The somatic phenomena are mainly the result of autonomic nervous system discharges and the release of epinephrine and norepinephrine producing observable changes appropriate to the organ systems affected, such as tachycardia, increased blood pressure, flushing, sweating, diarrhea, or urinary frequency. In addition, deepened, sighing respirations and increased muscular tension, often with trembling and motor restlessness, may be seen. From

an experiential point of view, many of the symptoms of anxiety consist of the patient's conscious awareness of the somatic processes just described. Palpitations, a sharp precordial pain, and a sensation of suffocation and "air hunger" are common complaints, especially in acute attacks, and the patient often feels impelled to open a window or go outdoors in order to get adequate air. In addition, there are certain phenomena that appear to be more than merely a consciousness of body functioning. Patients often complain of dizziness and lightheadedness, mental confusion, an inability to concentrate, memory impairment, and disorganization of logical thought; perhaps most characteristic of anxiety is a sense of inner, nameless dread that in its extreme form reaches panic.

Before moving on to an exploration of the clinical details of the anxiety neurosis, we must first turn our attention to certain aspects of the symptom that have a bearing on the difficulties attached to studying the phenomena that constitute it. There is little problem among investigators in agreeing on the existence and the nature of the somatic manifestations, for these are not only open to public inspection, but are in a rough way measurable, quantifiable, and reproducible. When it comes to the subjective experience of anxiety, the situation is quite different; here the terms "anxiousness," "dread," or "panic," have as their referent a state of conscious awareness that is qualitative in nature, and their meaning cannot be truly conveyed to another person unless he, too, has experienced the inner state to which they refer. To

the uninitiated, to define anxiety as a feeling of anxious apprehension, of dread, or of panic, is a nearly meaningless tautology, and he is liable to dismiss as an airy nothing that which to the patient who has suffered it is one of the most intense, real, and painful experiences he has ever lived through. Some observers are probably constitutionally incapable of ever knowing with any immediacy what the patient is trying to tell them. Most of us, even though we may not have exactly shared his experience, are able intuitively to get at least some faint inkling of what he means as he tries desperately to say the ineffable. It is for that reason that we shall rely heavily in what follows on the autobiographical statements of patients who have known anxiety at first hand.

The Syndrome (Anxiety Neurosis)

The anxiety neurosis, in which the symptom of anxiety is featured in the leading part, occurs in an acute and chronic form.

Acute Anxiety

As the term implies, acute anxiety is usually sudden in onset and occurs in attacks. These may last for only a few moments and disappear without major sequelae, or they may continue with waxing and waning intensity for many minutes or hours at a time. In some, the attack is an isolated episode that occurs rarely if ever again; in others a series of attacks may occur in

cycles lasting for days or weeks. Generally, the patient is unable to specify any precipitant of his symptoms, though in some a clue is provided from their associations, if one allows them to talk freely about the experience. In this connection, mention should be made here of one special form of anxiety that is encountered with some regularity and frequency, the so-called homosexual panic. Occurring usually in late adolescent or young adult males, often at a time when they are first exposed to the intensive contact with other men, such as exists in army barracks, male dormitories, or camps, homosexual panic is characterized by particularly severe anxiety associated with the idea that one may be homosexual or that other people think so. Those afflicted with this condition may verge on being delusional, are at times strongly impelled to suicidal acts, and are frequently driven by the emotional pain of their symptoms to seek medical help, especially in general hospital emergency wards.

The quality of an acute anxiety attack is well described in the following account by a patient of his experience during such an episode.

I was about half an hour into giving a lecture when it suddenly came over me. I had been perfectly well up until that time. There was nothing unusual about the situation, the lecture was the fourth or fifth in a series I was giving to a class I knew, and I had not been worried or concerned about anything before I began. All at once, without any warning, I felt something start up in me. It was as if a sudden, slight impulsion had simultaneously hit my upper chest and head. I was momentarily thrown off balance and felt I was swaying to the left (although I am sure my body did not really move), and I experienced a mild fullness in my throat. I kept on talking,

following the text of my lecture, but automatically, without really being aware of what I was saying, since my attention was now focused on what was happening within me. Almost immediately my heart began to race, I broke into a sweat, especially across my forehead, around my eyes and upper lip, and felt flushed in the face and a fullness in the front of my head that seemed almost to be an inner confusion. Central to this was a feeling of what I would almost call panic, which seemed to fill my whole awareness. Despite the fact that this was intensely vivid and real, I find it almost impossible to describe it in words. It was a kind of dire apprehension of I know not what, and I felt almost overwhelmingly moved to run, to get away, to escape, lest I collapse then and there. I was now aware that my legs were shaking (fortunately hidden from the audience by the lectern), and I took several deep breaths in the pauses between the phrases of what I was saying, swallowing hard as if to force back down what was rising up inside me. There was, curiously, a small part of me that was outside of all of this, observing it and telling myself that it was really nothing, was quite unnecessary, and that I should hang on, get control of myself, and calm down. This I was able to do by what seemed an exertion of my will power, and the panic and my body's reaction rather rapidly ebbed to a point where I realized I could carry on with what I was doing. The whole business took no longer than fifteen to twenty seconds, and I am sure that no one there knew anything was happening to me. I finished the lecture, which went on for another twenty minutes or so. Once or twice I thought the symptoms were coming back, but managed to abort them by the same will power that had overcome the attack itself. I remained inwardly somewhat tense and continued to have the flushed feeling in my face and a mild fullness in my head till the end of the class. Thereafter, I felt only as if I were being rather mechanical in my speaking, going through the motions without being wholeheartedly involved in what I was saying, and remaining emotionally somewhat distant from and out of contact with the audience. Afterwards, I felt perfectly all right, but was aware for the rest of the day of tension and fatigue.

Chronic Anxiety

For every person who experiences an acute anxiety attack like that just

described, there are dozens, probably hundreds who suffer from the symptoms of chronic anxiety, which, if less dramatic in their manifestation, can be equally unpleasant and debilitating. Indeed, almost all people undergo transient anxiety at one time or another in their lives, and it can hardly be called pathological unless it reaches a degree of chronicity or intensity that interferes with the individual's life and functioning. Referred to usually as "tension" or "nervousness," the manifestations are a lower-keyed version of what has been detailed above, as is evident in the responses of a class of normal students who, when asked to state what they felt like when they were "nervous," described the following phenomena: "shortage of breath," "tightness in the chest," "difficulty breathing," "stomach uneasy," "rumbling stomach," "fluttering stomach like butterflies," "stomach shaking," "had to keep swallowing," "diarrhea," "loss of appetite," "nausea," "retching, gagging," "sweating," "palpitations," "heart pounding," "dizziness," "lightheadedness," "trembling," "shakiness of voice," "tongue-tied," "stuttering," "tightening of the neck muscles with resulting headache," "jumpy all over," "fidgetiness," "body feels speeded up and full of energy," "had to do something with my hands all the time," "legs wanting to move," "twisting hair," "tired," "inability to concentrate," "feel like exploding."

The individual suffering from chronic anxiety does not, of course, complain of all of these phenomena. Each manifests his own combination of symptoms grouped in patterns (the ordering of which is not entirely

understood) that focus in some on the cardiovascular system, in others on the neuromuscular apparatus or gastro-intestinal tract, in yet others on the more subjective aspects of mental functioning. The appearance of chronic anxiety may be insidious in onset or may start with an acute anxiety attack; it can last for weeks and months on end, and comes and goes without obvious reference to external events; and it may be punctuated in its course by outbursts of the more acute variety of symptoms.

William James has left for us a vivid account of chronic anxiety (admixed with depression), the beginning of which was heralded by the sudden outbreak of an acute anxiety attack. Attributed in *The Varieties of Religious Experience* (where it was first recounted) to an anonymous Frenchman, it was later revealed in his edited letters to be autobiographic.

Whilst in this state of philosophic pessimism and general depression of spirits about my prospects, I went one evening into a dressing-room in the twilight to procure some article that was there; when suddenly there fell upon me without any warning, just as if it came out of the darkness, a horrible fear of my own existence. Simultaneously there arose in my own mind the image of an epileptic patient whom I had seen in the asylum, a black-haired youth with greenish skin, entirely idiotic, who used to sit all day on one of the benches, or rather shelves against the wall, with his knees drawn up against his chin, and the coarse gray undershirt, which was his only garment, drawn over them inclosing his entire figure. He sat there like a sort of sculptured Egyptian cat or Peruvian mummy, moving nothing but his black eyes and looking absolutely nonhuman. This image and my fear entered into a species of combination with each other. *That shape am I felt, potentially.* Nothing that I possess can defend me against that fate, if the hour for it should strike for me as it struck for him. There

was such a horror of him, and such a perception of my own merely momentary discrepancy from him, that it was as if something hitherto solid within my breast gave way entirely, and I became a quivering mass of fear. After this the universe was changed for me altogether. I awoke morning after morning with a horrible dread in the pit of my stomach, and with a sense of the insecurity of life that I never knew before, and that I have never felt since. It was like a revelation; and although the immediate feelings passed away, the experience has made me sympathetic with the morbid feelings of others ever since. It gradually faded, but for months, I was unable to go out into the dark alone.

In general I dreaded to be left alone. I remember wondering how other people could live, how I myself had ever lived, so unconscious of that pit of insecurity beneath the surface of life. My mother in particular, a very cheerful person, seemed to me a perfect paradox in her unconsciousness of danger, which you may well believe I was very careful not to disturb by revelations of my own state of mind. I have always thought that this experience of melancholia of mine had a religious bearing.

I mean that the fear was so invasive and powerful that if I had not clung to scripture-texts like "The eternal God is my refuge," etc., "Come unto me, all ye that labor and are heavy-laden," etc., "I am the resurrection and the life," etc., I think I should have grown really insane.

Hyperventilation Syndrome

An occasional complication of anxiety is seen in those patients who experience respiratory distress as a part of their syndrome. The resulting rapid, deep breathing that accompanies an acute attack of anxiety leads to a respiratory alkalosis secondary to the blowing off of excessive carbon dioxide. Most commonly this produces a modest sensation of tingling in the fingers, but in more extreme situations tingling in the toes and around the mouth, and

even mild tetanic flexion contractions of the distal extremities may occur. In addition, the patient feels a tightness and fullness in the head and a sense of lightheadedness that compounds the already existing panicky anticipation of disaster—fainting, a heart attack, or dropping dead. Those patients with chronic anxiety who exhibit frequent, intermittent deep sighing may live on the threshold of a respiratory alkalosis that renders them particularly liable to develop the overt symptoms of hyperventilation with only a few more deep breaths during an attack of acute anxiety. Having the patient hyperventilate during the physical examination will demonstrate his sensitivity in this regard by reproducing the symptoms that characterize the hyperventilation syndrome—a finding that will indicate to both doctor and patient a significant factor in the production of symptoms, often to the considerable reassurance of the latter.

The Anxious Character

When we speak of the hysterical or the obsessional character, we are referring to a grouping of behavioral traits that can be designated with some precision, persist over a period of time, have a certain degree of internal consistency, and are commonly associated with symptoms sharing the same diagnostic category. Thus, we view the person with a hysterical character as being emotional, seductive, imaginative, etc.; the person with an obsessional character as being rational, precise, obstinate, ambivalent, etc.; and

obsessional and hysterical symptoms, when they are present, as occurring with a fair degree of correlation in conjunction with the appropriate character traits.

The term “anxious character” is used less frequently and with a lesser degree of exactitude, and generally refers to a person with moderate chronic anxiety—that is, to an individual exhibiting symptoms rather than specific character traits. The manifestations of the “anxious character” are not related solely to the anxiety neurosis but may accompany a variety of neurotic syndromes (the phobic or obsessive-compulsive neurosis, for example), hypochondriasis, or certain kinds of depression. It characterizes the individual who approaches everything with apprehension, the chronic worrier, or those with social insecurity or doubts about their own capacities to perform successfully. The term, then, has little denotative specificity and is less useful clinically than the more commonly employed designations of character types.

The Nature of Anxiety

Anxiety and Fear

An issue that is frequently raised by investigators and clinicians alike concerns the relation between fear and anxiety. Are they the same or

different? The question, as one might expect, elicits answers that take dramatically opposite sides.

Anxiety is distinguished from fear by many observers on the basis of the nature of the stimulus that elicits the emotional reaction. Fear, it is said, is the response to a real external threat to life, limb, or security. Anxiety, on the other hand, is a similar reaction to an internal stimulus (an impulse or drive with its associated emotions and fantasies), or to an external event that is not in reality threatening but merely appears so to the individual's neurotically distorted perceptions. This distinction is well exemplified in the fragment of a dialogue captured for us by George Borrow:

"What ails you, my child?" said a mother to her son, as he lay on a couch under the influence of the dreadful one; "What ails you? You seem afraid!"

Boy. "And so I am; a dreadful fear is upon me."

Mother. "But of what? There is no one can harm you; of what are your apprehensive?"

Boy. "Of nothing that I can express. I know not what I am afraid of, but afraid I am."

Mother. "Perhaps you see sights and visions. I knew a lady once who was continually thinking that she saw an armed man threaten her, but it was only an imagination, a phantom of the brain."

Boy. "No armed man threatens me; and 'tis not a thing like that would cause me any fear. Did an armed man threaten me I would get up and fight him; weak as I am, I would wish for nothing better, for then, perhaps, I

should lose this fear; mine is a dread of I know not what, and there the horror lies.”

Mother. “Your forehead is cool, and your speech collected. Do you know where you are?”

Boy. “I know where I am, and I see things just as they are; you are beside me, and upon the table there is a book which was written by a Florentine; all this I see, and that there is no ground for being afraid. I am, moreover, quite cool, and feel no pain—but, but—”

Some within the camp of the separatists would go even further than those who distinguish fear from anxiety by the nature of the precipitant, and seizing on the vocabulary of patients who, like Borrow’s boy, use words such as “horror” and “dread,” maintain that anxiety as an experience is qualitatively different from fear—that it has an eerie power, an ineffable aura of evil, an almost supernatural intensity that sets it apart from the more mundane but understandable emotion of the fear of danger in the real world.

Other observers have tended to overlook the distinction we have just been considering and to emphasize the similarities between fear and anxiety. Both, it is pointed out, share the same kind of autonomic response, the same apprehensive expectation of what is to come, the same gradations in intensity from low level concern to compelling panic and horrified dread. They see no reason for basing a differentiation on the nature of the stimulus.

There is merit and reason on both sides of the argument—which, as

arguments go, is not a very acrimonious one, and which, like so many disagreements, results from incomplete data and oversimplified generalizations. The nature of emotion in general is complex and poorly understood, and our knowledge of anxiety shares in the confusion of information that comes from studies of the physiological, psychological, and social aspects of emotional processes. A review of some of the highlights of these studies should help us to put the disagreements concerning fear and anxiety in perspective. For the sake of simplification, the term “anxiety” will be used throughout what follows, except where “fear” is clearly more appropriate.

Physiological Aspects of Anxiety

Much of the interest in the physiology of anxiety, as has just been suggested, must be placed in the larger contest of the study of the nature of emotions in general, a study to which the specific investigation of anxiety and fear has made major contributions. Fear was only one of the emotions on which William James focused his attention when (concurrently with the independent work of Lange in Germany), he formulated what has come to be known as the James-Lange theory. James’s own exposition of his ideas is notable for its simplicity and clarity:

Our natural way of thinking about these coarser emotions, is that the mental perception of some fact excites the mental affection called the

emotion, and that this latter state of mind gives rise to the bodily expression. My theory, on the contrary, is that *the bodily changes follow directly the perception of the exciting fact, and that our feeling of the same changes as they occur is the emotion*. Common-sense says, we lose our fortune, are sorry and weep; we meet a bear, are frightened and run; we are insulted by a rival, are angry and strike. The hypothesis here to be defended says that this order of sequence is incorrect, that the one mental state is not immediately induced by the other, that the bodily manifestations must first be interposed between, and that the more rational statement is that we feel sorry because we cry, angry because we strike, afraid because we tremble, and not that we cry, strike, or tremble, because we are sorry, angry, or fearful, as the case may be. Without the bodily states following on perception, the latter would be purely cognitive in form, pale, colorless, destitute of emotional warmth. We might then see the bear, and judge it best to run, receive the insult and deem it right to strike, but we should not actually *feel* afraid or angry.

James's paradoxical relegation of emotion to a mere state of awareness of somatic processes led to considerable controversy and investigation. A significant challenge to his views came several decades later in the work of Maranon. Observing the responses of experimental subjects to the injection of adrenalin (which produced the fundamental functional bodily changes associated with fear), Maranon discovered that a majority of his subjects experienced only the physical symptoms produced by adrenalin *without emotion*, or, if they did have emotion, described it in a "cold," removed manner and spoke of themselves only as feeling "as if" they were afraid.

Not long after the publication of Maranon's work, Cannon enunciated what has become a classic criticism of the James-Lange theory. In opposition

to its propositions, he cited the following facts derived both from Maranon's findings and his own already extensive investigations into the emotions:

1. The total separation of the viscera from the central nervous system does not alter emotional behavior.
2. The same visceral changes occur in very different emotional states and in nonemotional states.
3. The viscera are relatively insensitive structures.
4. Visceral changes are too slow to be a source of emotional feelings.
5. The artificial induction of the visceral changes typical of strong emotions does not produce those emotions.

Instead of James's focus on the periphery as the locus of emotions, Cannon postulated the thalamus as the primary site of origin. In his theory, stimulation of the dorsal thalamus resulted in the feeling of emotions and, via the activation of hypothalamic structures, in their peripheral expression in specific patterns of visceral responses to autonomic discharge. In subsequent developments of the theory, which took into account the more recent neurophysiological findings concerning the cortical control of viscera, Papez and McLean each extended Cannon's notion of the central mediation of emotions to include the limbic system as being the "visceral brain" and the seat of emotions.

More recent findings have provided evidence that the Papez-McLean theory, although obviously having an important bearing on the phenomena of emotions, is too restricted to explain all of the facts. The work of those concerned with the reticular-activating system has tended to emphasize the quantitative over the qualitative aspects of emotional arousal. Pribram has suggested that memory (related as well as the emotions to limbic system function) is an important component of emotional phenomena. Furthermore, contemporary research on the catecholamines and other endocrines indicates a complexity not hitherto suspected. The sympathetic nerve endings, for example, secrete norepinephrine whereas both epinephrine and norepinephrine are released from the adrenal medulla. Each of these is not only controlled by different areas of the hypothalamus, but has a specific and selective effect on the target organs responsive to them. Ax, relating epinephrine to fear, and epinephrine-norepinephrine to anger, comments that the "finest nuances of psychological events may be found to have a corresponding differentiation at the physiological level." The way is paved by such findings for the reintroduction of the concept that the nature of the peripheral visceral response plays a part in the determination of the quality of experienced emotions.

In a recent study, furthermore, it has been suggested that an excessive amount of blood lactate (the levels of which are raised by epinephrine) can contribute to the production of anxiety through the lowering of the level of

ionized calcium. Patients with the symptoms of anxiety, it has been demonstrated, manifest an excessive production of lactate after exercise, they are unduly sensitive to a standard infusion of sodium lactate, and their symptoms of anxiety can be prevented by adequate parenteral doses of calcium ion. The significance of these findings, however, and their specificity for clinical anxiety have been called into question, and it is clear that the etiology of the symptoms involves more than a single metabolic abnormality. Indeed, not only are a variety of physiological as well as emotional factors implicated in the production of anxiety and other emotional states, but cognition and influences from the social milieu play a role as well, as has been shown in the work of Schachter and Singer to which we must now briefly turn.

Social and Cognitive Determinants of Emotion

Using mice that had been injected with either epinephrine or a placebo, Singer demonstrated a difference in the response to environmental stimuli. "In an unstressful situation (the non-fear condition)," he reported, "differential drug injection has no effect upon behavior, but in a fear producing situation, the greater the drug-induced sympathetic arousal, the greater the amount of fright displayed."

To test further the implications of this experiment that physiological

arousal alone does not necessarily produce an emotional state, Schachter and Singer turned to a study of man. In an elaborately controlled experiment they gave a number of subjects a subcutaneous injection of $\frac{1}{1000}$ cc. of a 1:1000 solution of epinephrine. Part of the subjects were told what to expect in the way of visceral symptoms; the others were not. All of the subjects were then exposed first to a “stooge” who behaved in an elated, hyperactive fashion, then to a second who pretended to be angry. As compared with the informed subjects, a significantly larger number of those in the uninformed group became euphoric or angry as they were exposed to the one or the other “stooge,” the informed group tending merely to be aware of the visceral effects of the injection without being emotionally aroused. Similarly, when the figures were adjusted for artifactual responses, a group of subjects given a placebo injection of normal saline were significantly less emotionally responsive than those given adrenalin and kept uninformed.

On the basis of these and related experiments, Schachter has suggested that the capacity to experience emotion requires visceral arousal, but that given such arousal, the experience of the presence and the quality of the emotion would depend on cognitive factors determined in part by the social environment. In Schachter’s words:

1. Given a state of physiological arousal for which an individual has no immediate explanation, he will “label” this state and describe his feelings in terms of the cognitions available to him. To the extent that cognitive factors are potent determiners of emotional states, one might anticipate

that precisely the same state of physiological arousal could be labeled “joy” or “fury” or any of the great number of emotional labels, depending on the cognitive aspects of the situation.

2. Given a state of physiological arousal for which an individual has a completely appropriate explanation (e.g., “I feel this way because I have just received an injection of adrenalin”), no evaluative needs will arise and the individual is unlikely to label his feelings in terms of the alternative cognitions available.

Finally, consider a condition in which emotion-inducing cognitions are present but there is no state of physiological arousal. For example, an individual might be completely aware that he is in great danger but for some reason (drug or surgical) might remain in a state of physiological quiescence. Does he experience the emotion of “fear”? This formulation of emotion as a joint function of a state of physiological arousal and an appropriate cognition, would, of course, suggest that he does not, which leads to my final proposition.

3. Given the same cognitive circumstances, the individual will react emotionally or describe his feelings as emotions only to the extent that he experiences a state of physiological arousal.

In the light of these observations it should be clear that there is no certain way of defining the physiological correlates of emotions in general, or anxiety in particular, and that, indeed, if Schachter is correct, it is cognitive and social factors that are the primary determinants of the emotional coloring to be given the visceral processes. Even more futile, in our present state of knowledge, is the hope of differentiating between anxiety and fear on any objective or measurable basis. If they cannot be separated out by subjective, experiential criteria, there is no sure method for distinguishing between

them. For the clinician or the psychologist, however, this is perhaps not so catastrophic as it might at first glance appear. Both terms refer to introspective phenomena that have much in common and can be differentiated empirically from emotions that lie along other dimensions, such as joy, anger, and sorrow. Given the presence of anxiety or fear in his patients, the clinician can use that as a starting point for investigating those psychological and environmental determinants to which Schachter has called attention. This, of course, has always been the practice of the pragmatic psychiatrist, who has been more concerned with elucidating the personal and social sources of his patient's emotions than with exploring their physiological underpinnings. It is time, then, to turn to an examination of the psychological aspects of anxiety, with the understanding that the term will be used henceforth in full recognition of the difficulties inherent in defining it exactly.

Psychological Aspects of Anxiety

Although the phenomena of anxiety had been recognized for centuries, anxiety itself was not singled out as a specific object of study until well into the nineteenth century. Internists and military surgeons, as we have seen, focused on its somatic manifestations (especially those involving the cardiovascular system), but their naive ignorance of the central position of emotions in the production of the disorder they called "DaCosta's Syndrome"

or “Disordered Action of the Heart” (and more recently “Neurocirculatory Asthenia”) relegates them to a byway of psychiatric history. With the introduction by Beard in 1880 of the term “neurasthenia,” attention was drawn to a loose grouping of symptoms, among which those of anxiety were frequently found. Beard’s explanations of the disorder centered on the pathognomonic complaints of weakness and fatigue, and it was not until Janet’s introduction of the concept of *psychasthenia* that any attempt was made to discuss the etiology of anxiety.

For Janet, neurotic illness was, as we have seen, divided into the two major categories of *hysteria* and *psychasthenia*, a rich, neurotic stew of phobias, obsessions, compulsions, anxiety, fatigue, depression, etc. In Janet’s theoretical scheme, the concept of a loosening of mental structure was the keystone to his explanation of emotional illness. Every individual, he postulated, is hereditarily endowed with a quantum of nervous energy that binds together all the mental elements under the dominance and control of the conscious ego. In those with hereditary degeneracy of the nervous system, either spontaneously or as the result of an excessive expenditure of the nervous energy from the demands of life, the quantity of energy is lowered to a point where the synthesis of mental elements begins to dissolve and specific mental functions escape from the ego’s control. An early sign of this is *dissociation*, in which clusters of memories and mental associations fall away from consciousness, resulting in the amnesias, anesthetics, and motor

disturbances that characterize hysteria. A yet further dissolution of the synthesis permits more primitive forms of mental functioning to emerge in the form of phobias and obsessive-compulsive phenomena, and, as the anarchy spreads, in the symptoms of anxiety, which represent the autonomous discharging of the “vegetative” nervous system.

Freud kept the prevalent quantitative notion of nervous energy, but his concept of the structure and functioning of the mental apparatus, which was dynamic and functional where Janet’s had been static and mechanical, introduced a radical change into the theoretical explanation of symptom formation. It had been recognized by numerous investigators toward the end of the nineteenth century that following their dissociation, mental elements, though unconscious and inaccessible to voluntary recall, could nonetheless indirectly influence conscious awareness and bodily functioning in the form of symptoms like obsessions, compulsions, and the large variety of hysterical phenomena. The problem was to explain the etiology of the process of dissociation itself. Janet, as we have seen, invoked a passive falling away of the mental elements as the mental synthesis was weakened following a lowering of the nervous energy. Freud postulated a different mechanism: Mental elements, he proposed, that were unacceptable to the ego (because they were shameful or frightening, for example) were *actively* pushed and held out of conscious awareness by a mental counterforce, subsequently termed *repression*, that rendered them unavailable to conscious awareness.

As Freud was developing these new conceptions that heralded the onset of dynamic psychiatry, he was also introducing innovative suggestions for the reclassification of neurotic disorders. In particular, dissatisfied with Janet's catch-all diagnosis of psychasthenia, Freud, as we have mentioned earlier, advanced the idea that the anxiety neurosis was a psychiatric entity in its own right, characterized by the central effect of anxiety. Furthermore, as his clinical observations indicated, the anxiety occurred whenever there was a blocking of the release of sexual energy through orgasm, whether this was the result of continence or coitus interruptus. Putting these two sequential facts together, he proposed that anxiety represented a transformation of the undischarged sexual libido.

In a subsequent development of his theory, the blocking of libidinal discharge was seen as occurring not so much from the external circumstances just alluded to, but rather through the operation of the repression of unacceptable libidinal drives. Freud called the resulting syndrome of anxiety an *aktuel neurose*—the German *aktuel* not having the English connotation of “actual” or “real,” but meaning “current,” “present,” “here-and-now.” Implicit in the adjective *aktuel* was the idea that the processes leading to the symptoms involved forces that arose only out of factors to be found in the patient's existing, contemporaneous situation—the blocking, that is, of currently existing libidinal drives pressing then and there for discharge. This was viewed as being in contradistinction to the psychoneuroses, in which the

psychological phenomena of repressed memories and emotions from *past* situations played a central role in determining the symptoms. Furthermore, the psychoneuroses were viewed as resulting from complex, higher-order mental phenomena like memories and fantasies, whereas the *actual neurosis* was seen as involving biological and somatic processes nearer to the physiological end of the mind-body spectrum.

Freud's views of the nature and etiology of anxiety remained unchanged for nearly three decades after their first formulation. It was not until the third decade of this century, and only after he had developed the foundations of an ego psychology, that Freud revised his concept of anxiety. Reviewing the case of Little Hans, the phobic little boy whose story he had first told in 1909, Freud came to recognize that anxiety played a special role in the functioning of the psychic structure. Anxiety was now viewed as the ego's response to an unconscious id impulse which, if experienced or expressed, would expose the individual to a real or fantasied danger. Anxiety in this setting was seen as anticipating a future event and acted as a signal of an impending danger, leading to the setting in motion of ego defense mechanisms to control and keep unconscious the impulse that threatens to emerge into expression and discharge. Anxiety in this scheme was seen as the cause rather than the result of repression, and from that point on was given a central place in the psychic structure where, as an *ego affect*, it constituted both a symptom in itself and a force that set in motion other psychological processes underlying neurotic

symptom formation.

Although Freud himself never completely gave up his earlier, more physiological, conception of anxiety, those who have since developed the theory have focused on its psychological aspects. As a signal of psychic dysequilibrium, the presence of anxiety leads to the asking of two questions: (1) What internal drive is the anxious individual afraid of? and (2) What are the consequences he fears if the drive were to be discharged? The answer to the first question is less complicated than that to the second. The drives most commonly implicated in psychic conflict and symptom formation are either sexual or aggressive in nature, whereas the consequences feared fall into four major categories which have been labeled according to the nature of those consequences:

1. Superego anxiety, as the term implies, is the ego's anticipation of the experience of guilt if the individual transgresses the ethical standards of behavior he has adopted for himself. By extension, if he has actually behaved as his forbidden impulse has directed, the individual then lives in anxious expectation of being found out, even when in reality other people may not be at all concerned about or critical of what he has done. ("The wicked flee when no man pursueth.")
2. Castration anxiety is a shorthand term used to refer to the anxious expectation of harmful retaliatory punishment. At the core of this anxiety are often to be found fantasies expressly

representing an irrational fear of actual, physical castration, which by extension may be manifested in a derivative way in fears of injury to other bodily parts, or of a more general diminution of one's power, skills, and capabilities. A businessman, for example, had recurrent fears and doubts about his capacity to perform adequately in his work. Gradually, in the course of therapy he became aware of his fears of impotence, and finally, in one therapeutic session, to the accompaniment of intense anxiety, he recalled a long-repressed fantasy that some unknown person was driving a large spike through his penis.

3. Separation anxiety, as the name suggests, represents the dread of being ostracized or abandoned as a consequence of one's transgressions.
4. Id anxiety refers to an anxious foreboding, often amounting to panic, that one will not only lose control of one's impulses, but that the very integrity of one's ego and one's identity will be overwhelmed and destroyed by the strength of the drive's pressure for discharge and satisfaction. Anxiety of this sort is frequently seen in the early stages of an acute psychotic episode and in that event can be veridical.

It should be emphasized that in the adult these various anxieties are often entirely unrealistic and do not represent a response to threats that exist in their actual human or physical environment. On the contrary, they derive from *fantasied* expectations that have their source in long-past childhood phases of development. In childhood itself, although numerous anxieties stem

from inner, autogenous fantasies, many represent a response to real external dangers. There is, for example, often actual punishment inflicted by parents and others, who spank or isolate the naughty child and thereby potentiate his internal tendencies to fear abandonment or castration. Fear of these threats from the external environment subsequently becomes internalized, and is incorporated along with the autogenous fantasies into the child's developing psychic structure, these together then being carried with him, largely unconscious in nature, into adulthood, where they form the basis of the anxiety that motivates his defenses and contributes to neurotic symptom formation.

The concept of anxiety was further developed by a number of Freud's colleagues and followers. For Rank, the central issue was the fear of separation, a threat that dogged the individual throughout his years as he lived out the process of individuation. In his view, it was first and perhaps most intensely experienced in the process of being born. The vagaries of the "birth trauma," a universal human event, set the stage and pattern for all subsequent episodes of anxiety and became the hallmark of Rank's conception of that affect. Adler, for whom anxiety was never a central element in his theory, saw it as being closely linked to the feelings of inferiority, weakness, and helplessness, that were for him the prime motivating factors in human behavior. Horney, Fromm, and Sullivan have all focused on separation as the basic factor in anxiety and have laid more explicit stress than previous

theorists on the importance of the individual's human and social environment. The child's conflict between dependence and independence on his mother, and the hostility that is an inevitable part of his struggle, are seen by Horney as playing the major role in the production of anxiety. For Fromm, the issues are similarly colored by the dependence-independence dialectic, but the contest is carried out against the larger backdrop of society as a whole, as man now strives for autonomy in freedom from cultural dictates, now, anxious and lost, retreats back into the crowd. Sullivan narrows the interpersonal stage down to the mother-child relationship and sees anxiety as arising in the earliest phases of that relationship as the infant almost intuitively senses his mother's disapproval in regard to elements of his behavior, and recognizes it as a threat to his security.

Although volumes have been written in support of the different views just summarized, the position of the various proponents, despite the acrimony of the debates that have ensued, are not basically irreconcilable. A little reflection suggests that the attention of each of the investigators whose concepts have been briefly reviewed is focused on one aspect of anxiety, all aspects of which are included in the broader, more inclusive scheme of the more strictly Freudian theory. Adler, for instance, seems to be dealing with what, in other terms, would fall into the category of "castration anxiety," while the other authors are more concerned with the general issue of "separation anxiety." And, while there are genuine differences among them in

their theoretical positions, they appear to be in substantial agreement as to the clinical nature of anxiety, and its role in symptom production and psychological conflict.

Anxiety and Learning Theory

At first sight, it may appear paradoxical to include a consideration of learning theory in a discussion of anxiety, since learning theorists (especially those with a strong behavioral bent) are inclined to view subjective emotions as chimeras, to deny any scientific relevance to whatever processes go on within the skull, and to base their theoretical statements only on observable behavior. In actual fact, numerous learning theorists weave statements about emotions into their expositions, and fear has been elevated into a central place in the theory explaining operant conditioning. Mowrer was one of the first to move in this direction. In connection with the conditioning processes related to painful stimuli, Mowrer wrote as follows:

When a buzzer sounds in the presence of a laboratory animal and the animal then receives a brief but moderately painful electric shock, we can be sure that the reaction of *fear*," originally aroused by the shock, will, after a few pairings of buzzer and shock, start occurring to the buzzer alone. Only when the subject, not motivated by the secondary (acquired, conditioned) drive of fear, starts *behaving*² (as opposed to merely feeling) he is likely to hit upon some response which will "turn off" the danger signal and enable the subject to avert the shock. This, however, is no longer conditioning, or stimulus substitution, but habit formation. Here it seems that the subject first learns to *be afraid** and then what to *do*" about the fear.

Fear, in other words, becomes bound to a signal other than the painful stimulus through the process of stimulus substitution, a central concept in the classical Pavlovian theory of stimulus-response conditioning. But more has taken place—the now conditioned fear, anticipatory of the painful stimulus to come, becomes an acquired drive to purposeful action designed to avoid that stimulus.

With the development of this “two-factor” or “two-stage” concept, which included the stimulus substitution of Pavlovian conditioning and the phenomenon of the “shaping” of behavior through learned responses, the way was opened to the rational application of learning theory to the explanation and treatment of a variety of clinical psychiatric problems. It became possible to alter undesirable behavior through operant-conditioning shaping techniques, employing “rewards” and “punishments,” and to combat anxiety (here considered synonymous with fear) by deconditioning procedures based on Pavlovian theory, especially when the anxiety was manifested in the form of a phobia. Learning theory and behavior therapy, already a significant addition to the knowledge and therapeutic armamentarium of the clinician, need further development, both in regard to their treatment techniques and their integration with the existing solid body of psychodynamic fact and theory.

The Existential View of Anxiety

Finally, a word must be said about a more philosophical approach to anxiety which, tracing its roots to Kierkegaard' in the nineteenth century, has provided an intellectual meeting ground for a variety of modern artists, philosophers, and psychiatrists. For the existentialist thinker and clinician, anxiety is not merely a sign of psychopathology. On the contrary, it is viewed as being a central element in normal human existence, closely bound up with man's psychological, moral, and spiritual growth away from the dependent state of childhood into the self-directed autonomy of truly responsible adulthood. Entailing as it does the frequent and frightening loss of security as the individual gives up one comfortable and familiar situation after another, the development of maturity necessarily produces repeated periods of anxiety, which is not only a response to the uncertainty about what lies ahead, but also a positive and valuable stimulus to the individual's continued growth and to his solution to basic and universal human conundrums. The ultimate existential anxiety has to do with man's awareness of the fragility of his identity, the transience of his being, and the immensity of the nothingness that lies just beneath the surface of his existence. In the hierarchy of anxieties, this is the most profound and most real, and it is seen as being irreducible to other forms of anxiety or to other elements of human mental functioning. In the words of May, one of the foremost English-speaking exponents of the existentialist view:

Authentic existence is the modality in which a man assumes the

responsibility of his own existence. In order to pass from unauthentic to authentic existence, a man has to suffer the ordeal of despair and "existential anxiety," i.e., the anxiety of a man facing the limits of his existence with its fullest implications: death, nothingness. This is what Kierkegaard calls the "sickness unto death."

Differential Diagnosis

Presented with a patient complaining of anxiety, the clinician is faced with two primary diagnostic problems: (1) to determine whether the complaints are the result of physical disease producing anxiety-like symptoms, and (2) having ascertained that the symptoms are in fact anxiety, to decide whether the patient is suffering from anxiety neurosis or another psychiatric syndrome of which the presenting anxiety is merely a part.

Psychiatric Syndromes

It should be evident from what has been said thus far that anxiety is to be found throughout the whole range of psychiatric disorders. If it occurs alone in either its acute or chronic form, the diagnosis of anxiety neurosis is made; if in conjunction with other symptoms, the latter usually predominate in defining the diagnostic category to which the illness is to be assigned. Thus, the patient in whom phobias are paramount is viewed as suffering from a phobic neurosis, even though anxiety may be a prominent feature of his disorder. Similarly, the diagnosis of schizophrenia, which in its acute form

may be heralded by the outbreak of severe anxiety attacks, is established by the characteristic disorganization of thought and affect that soon follows. Of practical clinical importance is the fact that anxiety may form an integral part of depressive states. In two carefully studied series of patients with primary depressive illness,' acute anxiety attacks, at times reaching the intensity of panic, occurred in over 10 percent. In patients suffering from mid-life agitated depressions, anxiety forms an integral part of the syndrome, and individuals with neurotic reactive depressions often manifest considerable anxiety, the depressive affect being referable to the situational loss that has precipitated the illness, the anxiety to the uncertainties about the future created by the loss.

Physical Illness

Acute Myocardial Infarction

The symptoms and signs of chest pain, breathlessness, tachycardia, palpitations, and sweating, that characterize many anxiety attacks, may at times be confused with an acute myocardial infarction, especially by the physician who is unaware of the nature of anxiety and whose attention is too exclusively focused on somatic processes. Patients who have been dramatically rushed to a general hospital emergency ward in the midst of an acute attack of anxiety have sometimes been hurriedly admitted to the

coronary intensive care unit where, on the accumulated evidence of negative diagnostic laboratory examinations, it is gradually recognized that the problem is one of a psychological disorder. If the physician does not include the symptoms of anxiety in his diagnostic considerations, and if he fails in his history-taking to look for recent life events that may be anxiety-provoking in nature, he may subject some of his patients to unnecessary hospitalization, diagnostic studies, and expense.

Hyperthyroidism

Chronic anxiety is often a central complaint in the clinical evolution of hyperthyroidism, and the physician should consider this condition in searching for the cause of his patient's symptoms. At the same time, it should be recognized that many patients with thyroid disease remain anxious even after all the physiological parameters of thyroid function have been restored to normal. The exact relation between emotional stress and hyperthyroidism is still unclear, but there is sufficient evidence that emotional factors are involved to warrant an evaluation of each such patient's psychological and social situation.

Pheochromocytoma

In this rare tumor of the adrenal medulla, epinephrine and norepinephrine may be episodically poured into the circulating bloodstream

in sufficient quantities to produce an acute diffuse visceral response that has all the peripheral autonomous signs and symptoms of an anxiety attack. These do not necessarily carry with them the subjective experience of anxious dread, but in patients with the proper cognitive set (as described by Maranon and Schachter) it is conceivable that the presence of the peripherally induced visceral sensations might arouse the central feeling of anxiety. On a statistical basis, it is unlikely that any given patient complaining of anxiety will be harboring a pheochromocytoma, but if there are reasonable grounds for suspecting it clinically, the further appropriate physical and radiologic examinations should be made.

Other Conditions

The anxious patient's complaint of "dizziness" or "faintness" may lead the clinician to think of Meniere's Syndrome or hypoglycemia. These conditions should be easily ruled out by glucose metabolism studies in the case of the latter disorder, and by careful history and physical examination in the former. In patients with anxiety, the dizziness is not a true vertigo, but is rather a sense of swaying or lightheadedness, and is unassociated with nystagmus or deafness, or the other signs of middle ear disease that are characteristically a part of Meniere's Syndrome.

Treatment

Medication

The use of medication is aimed at controlling the symptoms. Theoretically, drugs might be employed that acted either centrally or peripherally, but the proposed use of propranolol, an adrenergic reaction-blocking agent acting on the peripheral autonomic nervous system, has not been given an adequate clinical trial, and current pharmacotherapy is generally limited to the centrally acting tranquilizers. Those commonly in use are Meprobamate, chlordiazepoxide hydrochloride (Librium), and diazepam (Valium), the stronger phenothiazines being reserved for the agitation and anxiety found in schizophrenia and certain toxic or drug-withdrawal states. Barbiturates are useful for patients who include insomnia among their symptoms, but with the advent of the newer tranquilizers are now much less frequently prescribed for the control of anxiety. In view of their soporific effects and the danger of addiction, especially in dependent patients, this represents an advance in the chemotherapy of anxiety.

Psychological Measures

Supportive Therapy

Many patients find that their anxiety responds merely to the establishment of a supportive relationship with their doctor, a vital element in the treatment of all illness, whether physical or psychological in nature.

The physician may, when indicated, potentiate the beneficial effect of the doctor-patient relationship by certain more active psychological measures, such as encouraging the patient to talk about his anxieties, giving reassurance, information and advice, or manipulating the environment when it is possible to change external anxiety-provoking situations. It should also be recognized that psychological support is an important element in the effectiveness of antianxiety medications, and these should generally not be used without providing the appropriate adjunctive supportive measures.

Suggestion and Relaxation

A variety of techniques and exercises have been proposed which can be learned by anxious patients to help them reduce anxiety by consciously induced physical and mental relaxation. In all of these, suggestion probably plays an important role, the patient responding both to his anticipation of the results to be obtained and to his ideas of what the physician expects of him. In those with a capacity for hypnotic trance, the effectiveness of suggestion and relaxation can often be greatly increased through the techniques of self-hypnosis, which can readily be taught many patients, thus giving them an important measure of self-control over their symptoms.

Deconditioning

Based on the concepts of learning theory, a technique has been devised

for the treatment of phobias that is aimed at undoing the learned, conditioned linkage between anxiety and an environmental stimulus that is not in itself essentially anxiety-provoking in character. The patient is instructed to construct a hierarchy of phobic objects and situations in ascending order of their potential to produce anxiety. He is then required sequentially to imagine each step in the hierarchy from the least to the most disturbing, while at the same time the anxiety associated with each step is reduced to tolerable and controllable levels through the use of tranquilizers, relaxation exercises, or hypnosis—a technique referred to as *reciprocal inhibition*. Considerable success has been reported in thus rendering once phobic objects incapable of arousing anxiety, and the growing interest in these currently experimental therapeutic techniques should ultimately provide sufficient information to enable one more accurately to determine both the indications for their use and their long-term effectiveness.

Insight Psychotherapy

The decision to treat anxiety with psychoanalysis or one of its derivative shorter forms of insight psychotherapy cannot be based on the presence of the symptom alone. On the contrary, the effectiveness of such methods of treatment is determined by a variety of factors that include the individual's capacity to tolerate painful emotions, his psychological-mindedness, his ability to express his feelings and to make lasting human relationships, a

reasonable stability in his patterns of work, his control of his impulses, and his general level of intelligence. Unlike the forms of treatment that have just been reviewed, insight psychotherapy is aimed at altering the underlying internal psychological mechanisms that produce anxiety, rather than at the removal or control of the symptom alone. It should be emphasized that the development of insight requires the patient to examine the anxiety-provoking elements in his psychic structure. This inevitably arouses anxiety, which, as indicated, he must be able to tolerate, and which acts for both patient and therapist as an indicator of the locus and nature of the pathologic psychological conflicts. In this setting, anxiety can no longer be viewed as merely a symptom to be suppressed or dispelled, but rather as a pathway to psychological growth and maturation. It is perhaps here that the psychotherapist comes closest, if in a limited way, to those existential philosophers who see in anxiety a positive force for individual human good.

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Notes

[1](#) Italics is original.

[2](#) Italics is original.