Behavior Therapy

a chapter from Encyclopedia of Mental Health, Academic Press, 1998

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Behavior The things organisms do. There are two types: (1) *overt behavior*- observable by other people; (2) *covert behavior* - observable only by the behaving people themselves, for example, thoughts, emotional feelings, and so on.

Cognitive-Emotive Dissonance The most important stage in new learning, characterized by these two features: (1) it occurs when people first begin thinking and acting in their new, correct ways for their behavioral goal but (2) they are having the uncomfortable emotional feelings that they have when they believe they are behaving incorrectly: People usually describe this experience with "This doesn't feel right," or "This feels wrong to me." A common example of this event is: an American driver "feeling wrong" while driving correctly on the left side of the street in England. This is an unavoidable experience in psychotherapeutic or any type of change in a personal habit. In psychotherapy it is the stage of maximal therapeutic resistance. If cognitive-emotive dissonance is poorly handled in psychotherapy, patient/clients are likely to drop out or become noncompliant.

Conditioning The process of learning in which an innate behavioral response to a learned or innate stimulus becomes a new behavioral response to a formerly neutral stimulus, after that neutral stimulus has been paired a sufficient number of times with the original, learned or innate stimulus. There are two major types of conditioning: (1) Classical (Pavlovian or respondent) conditioning wherein the behavioral response being learned is an innate response for a neutral stimulus such as salivating to the sound of a bell. (2) Operant (Skinnerian or instrumental) conditioning wherein the behavior being learned is new for the subject.

Discrimination The process wherein a subject reacts appropriately to only one, of two or more similar, but different stimuli.

Drive A force that activates or impels people or animals to make a behavioral response. In behavioristic terms, drives are the results of physiologic deprivations, such as of food and water, or the result of pain or some other unpleasant stimulus.

Emotive Imagery The mental process of visualizing real or imaged events so vividly that the person reacts with the most logical emotional and/or physical response for the meaning that those mental pictures have for that person. In behavior therapy, emotive imagery is called mental practice.

Extinction The process wherein the frequency of a learned response to a conditioned stimulus decreases and ultimately disappears, due to lack of reinforcement.

Magic An imaginary but empirically nonexistent power that can exempt real events from the rule of

nature that an event occurs only after its essentials for existing have been met.

Magical Thinking Thinking that describes only nonempirical illusions of realities or reality.

Punishment Any undesirable consequence of the subject's behavioral response in a specific situation that decreases (ideally to zero) the probability of that response occurring in similar future situations.

Reinforcement A process of increasing the probability (ideally to 100 %) that a specific behavior will be repeated in similar future situations. The two classes are: positive and negative. (1) *Positive reinforcement* occurs when a subject receives or experiences a personally pleasant event, that is, a reward as the consequence of its specific, immediately preceding behavior. The object or experience received is a *positive reinforcer* for the behavior that preceded it. (2) *Negative reinforcement* occurs when a subject receives an unpleasant stimulus that results in a behavioral response that terminates or removes that stimulus. The unpleasant stimulus for the behavior that terminated it is a *negative reinforcer*. The unpleasant stimulus is called an *aversive stimulus*. The event of termination or removal of an aversive stimulus is a positive reinforcer-also called a *secondary reinforcer*-for the behavior that immediately preceded that terminating event.

Response and Stimulus Generalization The process wherein a neutral stimulus that is similar to, but different from, a conditioned stimulus elicits the same responses that the original or conditioned stimulus elicits, without having been previously paired with either. Generalization of response is the process wherein the same response is learned to different stimuli.

Stimulus A sensory event that elicits a response from a subject. The two types of stimuli are: (1) Innate or unconditioned stimuli, which elicit only natural or innate responses from a subject such as salivation when exposed to food, and (2) learned or conditioned stimuli, which elicit the responses that innate or learned stimuli elicit, but only after having been paired several times with the real or conditioned stimulus when they elicit their normal target responses.

There are varying opinions about the best way to define **BEHAVIOR THERAPY.** However, most health professionals accept Eysenck's definition: Behavior therapy is the attempt to alter human behavior and emotions in a beneficial way according to the laws of *modern learning theory.* There is only one problem with that definition: There is no generally recognized comprehensive learning theory of human behavior.

Consequently, from a phenomenological view point, behavior therapy has the following three objective appearances. First, behavior therapy is a general field of health improvement that deals with learned, undesirable emotional and physical behavioral responses. But these undesirable responses have been practiced so much that they have become personal habits. However, the people who have these undesirable habits believe that they have little or no satisfactory control over them. That is why these habits are often the main behavioral barriers to personally satisfying lives for their owners. Second, as a field of health improvement, behavior therapy consists of a diverse collection of many different behavioral (as opposed to medicinal) regimens. Each regimen has a name and is proclaimed to be based on laws of the yet-to-be-identified modern learning theory. Without a comprehensive unifying learning theory however, behavior therapy will not soon become the genuine health science discipline that it is incorrectly assumed to already be.

Third, the behavior therapy field has a generally unrecognized or generally ignored crisis of disunity. It is quite similar to (if not the same as) the crisis of disunity that Staats recently (1990) described in psychology, the "surrogate mother" of behavior therapy. But unlike the rigidly divided field of psychology, behavior therapy has reached the threshold of identifying one unifying learning theory of human behavior that will enable it to immediately become a genuine health science discipline.

I. EARLY HISTORICAL ROOTS OF BEHAVIOR THERAPY

Attempts to help people solve behavioral problems, with maneuvers similar to those used in today's behavior therapy have a long history. Pliny the Elder, in first-century Rome tried to cure alcohol abuse by putting putrid spiders in the drinking glasses of alcoholabusers. Today that maneuver would be called *aversive conditioning.* The eighteenth-century "Wild Boy of Averyron" was taught spoken language with maneuvers that today would be called *modeling, prompting, positive reinforcement,* and/or *withholding of positive reinforcers.* A nineteenth-century equivalent of today's prison warden, Alexander Maconchi, used what today would be called a *point system* or a *token economy* as the main basis for getting inmates of a Royal British penal colony to obey the prison rules. In the same century a French physician treated a case of obsessional thoughts with maneuvers that today would be called *thought stoppage* and/or *reciprocal inhibition.* Still, as a field of health improvement, behavior therapy is less than fifty years old.

The direct history of behavior therapy is inextricably interwoven with the history of psychology, which was its surrogate mother. Psychology resulted from the intellectual revolution of a group of scientifically minded European philosophers. They abandoned philosophy and started psychology, the science of the structure of the mind and consciousness. From their research focus came the name or their school of psychology: Structuralism. Their main research technique was structured, personal introspection. Their goal was to make psychology a "pure" natural science, on an equal "footing" with the other natural sciences. They were the first experimental psychologists; but they showed no interest in investigating human behavioral health problems.

Wilhelm Wundt started the structuralistic psychology in Germany. After training with him, Edward R. Titchener brought structuralism to America in the late nineteenth century. Passive, structured introspection of one's own mind, however, proved to be unproductive. Envy of the natural scientists soon developed among American psychologists, because unlike psychologists, the natural scientists had concrete, objectively observable constructs. Those constructs could be manipulated with satisfying predictable and reportable results. Those results could be recognized and objectively replicated, and they could produce honors and recognition for the scientists who discovered them. The charismatic Cattell, of the psychology laboratory at the prestigious Columbia University, continually made this boast. The research in his laboratory was as independent of introspection as was in the research in physics or zoology. The rapidly increasing general professional interest in doing that type of research led to the first American psychological rebellion, which occurred early in the twentieth century.

A. The Results of That Rebellion

The main result was the production of three new schools of American psychology: *Gestalt, Behavioralism, and Functionalism.* Each school had these two goals: (1) to effectively eliminate the other schools, by making their school synonymous with American psychology, plus (2) to put American psychology on as firm a scientific basis as were the natural sciences.

However, there still was no stated interest in treating behavioral health problems. That was probably due to this reality: At that time, people were usually thought of as belonging to one of only four groups: (1) normal people, that is people in everyday life situations; (2) insane people, such as inmates of those foreboding stone fortresses called insane asylums or "nut houses"; (3) criminals, such as inmates of prisons or ails; and (4) medically ill people, such as patients of physicians. There was no recognized need then for a health field devoted to behavioral health improvement.

The Functionalists seemed to have been the most well organized of the three new psychological

schools. In addition, they had decided to switch their research focus from passively observing the subjective structure of a passive mind, to observing the contents of active minds at work in every day life. That interest might have led to a later psychotherapeutic focus. However, neither the Functionalist nor the other two schools attracted much attention. That was probably due largely to the aggressively attacking and rejecting stance the behaviorists took toward the other schools of psychology. The behaviorists were led by the charismatic, proselytizing behavioral psychologist named John B. Watson. He had become a strong enthusiast of the idea of making Pavlovian conditioning the basis for behavioral psychology.

II. IMPORTANT BEHAVIORISTS AND THEIR CONTRIBUTIONS

A. Ivan P. Pavlov and Classical Conditioning

Ivan P. Pavlov (1849-1936), the Russian physician and physiologist, and 1904 Nobel Prize laureate, serendipitously discovered classical or *respondent conditioning* in the late nineteenth century. Here is the standard procedure for producing it. First, select a neutral stimulus and an animal (human or nonhuman), for example, a dog. Animals often respond with a startle response to unusual stimuli. So. it is important to make sure that a selected stimulus is really neutral, that is, one the animal normally ignores. Common neutral stimuli used for conditioning are a light or the sound of a bell or buzzer. To ensure that it is neutral for the selected animal, the stimulus is repeatedly presented to the animal until it is consistently ignored. That maneuver is called *stimulus habituation,* or *adaptation.*

Next, select an innate, or *unconditioned stimu*lus-that is, anything to which the dog has an innate response is appropriate. Common examples are food for the salivation response or electric shock for the escape response. Then, a bell or buzzer is sounded a second or two before giving the hungry dog food or before giving a satiated dog an electric shock. After several such pairings of those two stimuli, the hungry dog will salivate and the satiated dog will run away from the sound of the bell or buzzer alone. That event indicates that classical conditioning of the unconditioned stimulus' response to be a response to the formerly neutral stimulus has occurred. Then the same response will occur in response to either stimulus.

1. Drawbacks of Early Pavlovian Conditioning Theory

There were three major drawbacks in early Pavlovian Conditioning Theory: (1) Except for salivation and fear, Pavlovians ignored the other autonomic nervous system responses. That fact severely limited the variety of learned behaviors that they could study. (2) It could not explain in empirically accurate ways active and passive escape or avoidance behaviors and some of the behavioral results of punishment. Yet, those learned behaviors and the consequences of punishment are as important for survival and enjoyable living as are approach behaviors. (3) The technical aspects of Pavlovian conditioning were much more complex than those of the main competing learning theory: namely, Thorndike's reward-based, trial and error, learning-by-doing theory of behavior. Largely because of Watson's inflexible commitment to it, Pavlovian conditioning became one of the two main focuses of the behaviorists.

B. John B. Watson and Radical Behaviorism

Starting in the second decade of the twentieth century, John B. Watson (1878 -1958) led American behaviorists in continual rebellion against the other schools of psychology. The behaviorists' canons were: (1) Behaviorism, a term coined by Watson, maintains that the concept of consciousness is

merely an undefinable replacement of the religious concept of soul and therefore completely rejects it. (2) Behaviorism is a clean break with all of the current theories and traditional psychological terminology that do not describe directly observable responses. (3) Behavior is best explained in terms of reward and punishment learning or in terms of Pavlovian conditioning of the stimulusresponse (S-R) reflexes of the subject's nervous system. Watson even believed that human language learning was best explained on the basis of spinal reflexes. On that point, Watson was more of a reflexologist than a behaviorist.

Watson was not the first one to see the positive scientific potential of focusing on Pavlov's conditioned reflexes. In his 1890 book, *Principles of Psychology,* William James wrote a chapter titled *"The Functions of the Brain."* There he described the case history of a child who had become afraid to touch a candle after having been burned by one. James' description of the child's presumed brain activity revealed a conceptual grasp of some such phenomenon as conditioning. Also, in his 1896 psychological article, *"The Reflex Arch Concept in Psychology,"* John Dewey stated his dissatisfaction about the lack of a unifying theory in psychology. He also stated his belief that Pavlov's concept of the reflex arch came closest to meeting the unifying need of psychology than any other current concept. But unlike Pavlov, who believed that activity of cerebral reflexes was important in behavioral learning, Watson rejected all reflex action that was higher in the nervous system than the spinal reflex.

Watson is best remembered for the 1920 case study of Little Albert that he and Rosalie Rayner did. They conditioned that 11 -month-old infant to have an irrational fear response to furry animals. As the unconditioned stimulus they used the infantile startle response to an unexpected loud noise. That was the first confirmation of Pavlov's theory in America, using a human subject.

Little Albert spontaneously *generalized* his fear response to furry animals to other furry objects, for example, to furry articles of clothing. But he did not exhibit fear in response to nonfurry objects of clothing. It remains a mystery why that observation of *stimulus discrimination* did not lead Watson to make this insight: Little Albert could not have made the above stimulus discrimination without possessing the faculty of consciousness. Still, Watson and Rayner's work made it seem logical to assume that irrational fears could probably be eliminated by induced extinction. So with Watson's encouragement, Mary Cover Jones, one of his graduate students, successfully investigated that possibiiity.

To induce fear extinction, Jones subjected abnormally fearful children to a combination of behavioral conditioning maneuvers. The two most effective ones were *social imitation* (now called *modeling)* and what she called *direct conditioning,* which, 30 years later Wolpe called *counterconditioning* and *reciprocal inhibition.* For direct conditioning, Jones would gradually present to irrationally fearful children their feared object, while they were enjoying their favorite food. The effectiveness of this maneuver depended upon Jones making sure that the children always experienced stronger pleasant sensations from eating than fearful ones in response to the gradually presented, feared animal or object. For modeling, Jones would have the fearful child watch and join peers, fearlessly playing with the feared animal or object.

Watson did more to popularize behaviorism as an area of scientific study than any of his contemporary behaviorists. Still Watson's positive influence on behaviorism came more from his excellent public speaking and writing skills than from his research. Consequently, his admirer, Herrmsteim, made this summary statement in his introduction to the posthumous edition of Watson's book, *Comparative Psychology:* "Watson's importance to behavioral psychology was more sociological than substantive."

C. Edward L. Thorndike: Reward Learning Theory

Edward L. Thorndike (18 74 -1949), was the most influential non-Pavlovian American behaviorist in the first three decades of the twentieth century. His popular 1898 book, *Animal Intelligence,* made him one of the earliest internationally renowned American psychologists. However, his subsequent work had a lasting effect on American psychology mainly because it was the professional "springboard" for the research of B. F. Skinner. Skinner was Thorndike's most famous and productive student.

Thorndike's theory was: When, by trial and error, hungry or thirsty rats behave in ways that result in them receiving food or water, the tendency to have that behavior in similar future situations is increased. Conversely, if a specific behavioral habit-reflex of a rat is punished enough with an electric shock, the tendency to have that behavior is decreased and or extinguished. Or, an untrained rat will quickly learn avoidance behavior in response to those shocks.

Thorndike used a puzzle box-later called the Skinner box-in which trial and error, *reward-based learning research* was done using food-or waterdeprived rats. The rats were rewarded with food or water immediately after making the appropriate behavioral responses in the experimental conditions. Thorndike also used satiated rats, to which he gave an electric shock immediately after inappropriate behavioral responses.

Unlike Pavlov, Thorndike had no interest in neuronal reflexes. For Thorndike (and later for Skinner) the stimulus-response (S-R) reflex was merely the statistical correlation of specific responses with immediately following rewards and/or punishments. Although Thorndike and Pavlov had different concepts of the behavioral stimulus-response (S-R) reflex, both theories seemed to explain approach behavior equally well. Unfortunately, each theory was equally incapable of explaining avoidance learning and some of the effects of punishment on learning in a way that accurately fit the human experience of them.

D. Burrhus F. Skinner and Operant Conditioning

Burrhus F. Skinner (1904 -1990), extended, modified and perfected Thorndike's reward learning theory as *operant conditioning.* In Skinner's 1953 book with Lindsley and Solomon, the term *behavior therapy* was introduced into the psychology literature. Skinner however, had worked with nonhuman animals; so that term may have been used in reference to the past work of Mary Cover Jones. It may also have referred to the exciting new, non-Freudian hypothesis of Joseph Wolpe that neurotic fears are learned and can be efficiently treated with behavioral treatments.

Like Watson, Skinner was committed to *radical behaviorism.* He too rejected traditional psychology and all of its concepts that implied what he called *mentalism.* That meant any concept that reflected a belief in cause/effect relationships between mental entities or activities and learned behavior. In the 1966 edition of his 1928 book, *The Behavior of Organisms,* Skinner still labeled the belief that emotions are important factors in behavior a "mental fiction." He agreed with William James' assertion that "people are sorry because they cry," or that "people are afraid because they tremble." In addition, they both believed it is incorrect, or at least unscientific, to think that people cry because they are sorry or tremble because they are afraid.

To my knowledge, James' assertion has no clinical application. But, believing in that assertion is a common cause of clinical problems. For example, people who believe they are their behavior often get clinically depressed when they believe that one or two undesirable personal actions "magically change them as human beings." Such students often get depressed and quit school after 1 or 2 days of seriously thinking that they are complete failures because they failed to get the grades that they wanted. However, such thoughts and emotions cannot be directly observed; so, according to Skinnerians, to be "scientific," psychotherapists must ignore those important factors when they treat such depressions or try to get those students to stay in school. Next is the logic of their often futile

treatments.

Skinner maintained that emotions are not behavioral responses; instead they are states of reflex strength, similar to drives. According to Skinner, the virtue of understanding emotions that way is that behavioral scientists can ignore them "whenever that concept loses its convenience." However, as we shall see below, Mowrer's research revealed that Skinner's ideas about emotions do not make logical sense, even for nonhuman animals. That fact is all the more interesting because Skinner's research subjects were almost all nonhuman animals-usually rats and pigeons. However, to Skinner's credit, he never advised the extrapolation of his animal research findings to human beings. As late as 1960, he warned that whether or not extrapolation of his research discoveries to people is justified cannot yet be decided. The behavioristic psychologists who introduced operant conditioning into behavior therapy were justifiably impressed by Skinner's research. But, they either did not know or ignored that nonhuman brains cannot and therefore do not process sensory input the same way that human brains process it. Therefore, even in the same stimulus situations, it is still naive to expect humans to respond exactly the way rats or pigeons respond.

1. Skinner's Most Positive and Most Negative Influences on Behavior Therapy

Probably Skinner's most positive influence on behavior therapy was his research about how different *schedules of reinforcements* significantly influence the speed of learning new behavioral habits and their resistance to extinction. For example a fixed 1: 1 ratio of an immediate reward or reinforcement for each appropriate response produces the fastest acquisition of new habits for a given, constant drive level. But those habits are most susceptible to rapid extinction if the response/ reinforcer ratio increases or the reinforcers cease to appear.

If behavior therapists are skilled in managing relevant reinforcement intervals and ratios, their cooperative patients /clients will maintain high levels of motivation for therapeutic change. Also, in the world of paid work, if managers are skilled in varying reinforcement intervals and ratios, employees will maintain high morale and productivity with minimal or no increases in company budgets. *Contingency management is* the name of such goal-oriented changes in reinforcement schedules and ratios.

The sustained, high productivity that the 1: 1 ratio produces is the main reason some employers prefer a piecework pay schedule over an hourly or other fixed interval pay schedule that is independent of behavioral response rate. Within the limits of a constant drive state, a variable ratio and/or variable interval reinforcement schedule produces behavioral habits that are most resistant to extinction. For example, the gambler continues to bet despite losses because reinforcement-payoff-may occur any time.

Probably the most negative influence Skinner had on behavior therapy was his empirically unjustified defense of his unreliable definition of behavior. He maintained that behavior is only what one organism observes another organism doing. Because Skinner studied nonhuman animals, he had no logical reason to be concerned about a human test of empirical common sense. Had Skinner had this concern, he might have defined behavior in a way that has a greater than 50% chance of being correct, in any specific instance.

For example, with personal observation alone, a behavior X (1) may be X and may be correctly observed and labeled as X; (2) a non-X behavior may appear not to be behavior X and be correctly observed and labeled as not being behavior X; but (3) behavior X may appear to be some other behavior, for example, Z and may be incorrectly observed and incorrectly labeled as behavior Z; (4) behavior Z can appear to be behavior X and be observed as, and incorrectly labeled as behavior X. A 50% error possibility is insufficient for scientific conclusions. Also, Skinner's definition of behavior leads to unsuspected magical thinking.

For example, in the textbook *Contemporary Behavior Therapy* by Spiegler and Guevremont, this statement appears: "The behaviorist's model for behavior is: "People are what they do." In reality, though, only by magic can making a stupid mistake convert a human being into a stupid person, or swimming like a fish convert a human being into a fish. That is not just a matter of semantics; when one wants to describe behavior in clinically useful, scientific terms, it is all semantics. When scientists ignore that fact, they sometimes use unsuspected magical thinking to describe empirically valid research findings. As a result they misinterpret their data and formulate useless treatment procedures. That is why Mowrer's research was so important for the development of today's comprehensive behavior therapy.

E. 0. Hobart Mowrer and Two-Factor Learning

More than the research and writings of any other single pioneer, behavioral psychologist, those of 0. Hobart Mower made contemporary, comprehensive behavior therapy possible. He believed that to be clinically useful, any explanation of human behavior has to pass the human test of empirical common sense. Consequently, Mowrer was intrigued by this paradox: Watson was accepted as the quintessential empirical scientist. Yet the basis for Watson's behaviorist revolution against then-contemporary American psychology was mainly his unchecked belief about the concept of consciousness. He believed that consciousness is an undefinable, meaningless substitute for the ancient concept of soul.

But what if Watson had plugged Little Albert's ears (thereby eliminating his sound consciousness) prior to making the sudden loud noises to condition him to be afraid of furry objects)? That would have been the simple first step in a scientific check of his assumption. But he did not take it. The authors believe that if he had taken that simple step, instead of rejecting the concept of consciousness he might have operationally defined it (and its opposite state of being) in clinically useful terms.

Another observation that intrigued Mowrer was this: When he analyzed the research of the Skinnerians on avoidance behavior, he found their research was carefully done and their data were valid. Their theoretical explanations of that excellent data, however, involved presumably unsuspected but definite magical thinking. That unsuspected magical thinking obscured the invalidity of the basic Skinnerian assumption that directly observable behavior itself is the only factor worthy of scientific study.

That view is called the one-factor stimulus-response (S-R) model of learned behavior. The following common conditioning experiment reveals the serious limitation of that assumption. Take, for example, a dog that has been conditioned with strong electric shocks to run away in response to the sound of a formerly neutral buzzer, which had been sounded within 2 seconds of those shocks. After four consecutive running responses occurred before the electric shock could be administered, the shocks were permanently stopped. Why then does this dog continue running away from the sound of the buzzer?

Here is the Skinnerian answer. The painful electric shock is an unconditioned aversive stimulus. The unconditioned drive states of pain and fear result from painful aversive stimuli. The dog's running responses terminated the dog's pain, and the fear that accompanied the sound or the buzzer. That freedom from those two intense stimuli is a powerful, positive reinforcer of the terminating running responses at the sound of the buzzer. But, according to Skinner, the fear (not being directly observable) could and should be ignored. The only factors worthy of scientific study were the directly observable running responses, the observable buzzer sounds and the strong, unconditioned, electric shocks.

After such a sign or cue learning experience, this happens: When the dog perceives the same or similar, future mnemonic signs or cues, part of the bioelectrical component of that sensory entity stimulates its autonomic nervous system to the possibility that a fearful pain seems likely to occur. The learned buzzer cue instantly (i.e., with the speed of electricity) elicits fear, which is a drive for the old running response that had formerly protected that dog from the past electric shocks that had quickly followed past buzzer sounds. That running response still results in the same two, powerful, positive reinforcers described above.

Now, recall the second, unshocked dog mentioned earlier. Having "never been shocked," that second dog would not have learned that the buzzer sound had been associated with a painful electrical shock. Therefore, that second dog would ignore the buzzer sound, even though the first dog would continue to run from it. But, the buzzer sound itself never would have acquired any aversive property. Instead, the first dog's autonomic nervous system would have just become conditioned to instantly produce survival-related fear as a second stimulus to the pain of the electric shock as a drive for running at the perception of the learned mnemonic cue for the possibility of another electric shock.

Here is the final major difficulty that is created by assuming that the buzzer sound had acquired an aversive quality "in its own right." That assumption makes it difficult, if not impossible, to explain in a nonmagical way how natural extinction of the dog's running response occurs after the shocks permanently stop. However, Mowrer's nonmagical, Two-Factor Learning Theory easily explains it in an empirically scientific way.

An unconditioned pain drive for running occurs only when the peripheral pain fibers of the sensory area of the dog's brain are stimulated. At the same time that occurs, the dog's autonomic nervous system produces a fear drive for running away from the electric shock. Via involuntary, mnemonic association with any immediately preceding, neutral stimulus (in this case, a buzzer sound) that stimulus can become a conditioned (i.e., learned) sign or cue for the fear component of the total escape response. Afterwards, the mere perception of that sign or cue is a mnemonic stimulus for the dog's autonomic nervous system to produce that old fear drive for running.

The intensity of such fear tends to parallel the intensity of the unconditioned pain drive that precedes it. The intensity of that fear also parallels the strength of the total positive reinforcing power of the freedom from pain and fear, which reinforces the running response that terminates the fear and prevents the painful shock. Therefore, when the shocks stop, at least half of the most powerful positive reinforcement for running also instantly stops.

The physical distress and fatigue from intense running is itself an unconditioned pain event. But that discomfort, in comparison to the pain of an electric shock, is and remains trivial and ignored until the shocks stop. Then, the only drive for running is the rapidly decreasing, unsupplemented fear, cued by the buzzer sound. Now, the initially ignored physical distress and fatigue of intense running rapidly become progressively stronger punishments for continued running responses. That fact causes the decreasing, unsupplemented fear drive for running to gradually extinguish and the dog's running to stop.

In analogous ways Mowrer's Two-Factor Learning Theory also explains why and how any specific sensory stimuli (which a human or nonhuman animal mnemonically associates in appropriate sequence with painful or pleasant events) can become learned signs or cues for learned behaviors that are associated with those events. But, that explanation applies only to animals that have first had the appropriate mnemonic sign learning experience.

Humans, however, can and often do exempt themselves from that naturally occurring behavioral extinction that nonhumans normally experience. Jones' research on excessively fearful children was

probably the first to reveal that fact. She noted that when re-exposure to the unconditioned aversive stimulus stopped, her human subjects' conditioned fears sometimes failed to extinguish. This indicated that nonhuman brains do not work exactly like human brains work. Modern human research on the neuro-psychophysiology of language indicates that the above difference in brain functions is probably due to these facts: Humans are the only known animals that have the faculties of self-talk (i.e., thinking about their own thinking). Humans are also the only known animals that can imagine or re-create at will mental, emotional, and physical virtual realities, independently of current or past empirical life events. That is how and why people's imagined events can be as powerful emotional and physical stimuli for habit learning as corresponding empirical life events are, or can be.

That unique human ability seems to best explain the following fact: Pavlov did not report a single dog that ever tried to eat the bell used in its conditioning experiences. Yet, humans often incorrectly call themselves and others names (such as "Jackass" or "mouse") that do not refer to any real human things; then without realizing it, they condition themselves to react emotionally and physically to themselves (and to those others) as if they really are the nonexistent things to which their incorrect names refer. (See the Mouse Lady case example in the book *Rational Behavior Therapy.)* That universally popular human habit seems to be an important mental mechanism in many cases of self-mutilation and unprovoked hate crimes.

1. Mowrer's Most Important Contributions to a Unified Field of Behavior Therapy

1. Mowrer's firmly supported Two-Factor Learning Theory made this fact obvious: If consciousness and emotions had not already existed, equivalent concepts would have had to be invented to serve their essential survival functions.

2. Empirical evidence that classical or respondent conditioning is the only type. In addition, during the conditioning process, the former "neutral" stimulus never acquires a new property. Instead, it becomes the subject's new, conditioned sign or cue for associated learned autonomic nervous system responses to that formerly "neutral" stimulus.

3. Empirical evidence that there are two types of behavioral learning: (1) operant or instrumental and (2) sign or cue learning. But they both are byproducts of associated, conditioned impelling emotional drives (e.g., fear, hope, anger, etc.) or other responses controlled by the brain's autonomic nervous system.

4. Empirical evidence that the main survival functions of learned behavioral signs and cues seem to be alerting the concerned subjects to possible positive or negative changes in their current situation and to help them prepare for possibly needed self-protective or other survival related actions.

5. Mowrer demonstrated that Pavlov was correct. Personally understood words are entirely real conditioned stimuli; they substitute for and elicit the same responses that are elicited by the real or imagined stimuli that they represent. Therefore, psychotherapy is word therapy, designed to change the person's internal milieu, that is, to change certain of the person's undesirable, habitual autonomic nervous system responses. That fact makes vicarious learning and extinction of behaviors possible. It also makes therapeutic imagery the main mental mechanisms by which permanent therapeutic improvement occurs.

6. Empirical evidence that via their control over their conscious thoughts, people retain executive-type controlling power over their emotional and physical behavioral responses. That insight enables empirically thinking people to instantly take these two ideally healthy, emotional actions at the same time: First, refuse to believe any longer in the universally popular, but magical and unhealthy "emotional It-monster myth." Second, stop the unsuspected, but still unhealthy emotional self-abuse that believing in that magical emotional myth causes them to experience.

The most easily recognized forms of that unhealthy emotional myth are the frequent, sincere, but irrational thoughts and accusations such as: "It or she/he made or makes me mad, sad, glad," and so on. The empirical reality almost always is: "I made or make me mad, sad, glad, and so on, about it or what she/he is doing or did. If I want to however, I can change my belief about what they did, or are doing and thereby give myself a healthier emotional reaction to it, without using alcohol or other drugs."

III. BEHAVIOR THERAPY AT THETHRESHOLD OF IDEAL UNIFICATION

A scientific discipline cannot exist without a comprehensive, empirically valid, unifying theory. To unify the field of behavioral health improvement, a theory must be based on and/or meet at least five or the following seven sets of empirical facts and criteria.

1. The human brain is a person's main organ of survival, comfort and learned self-control.

2. The theory must make possible clinically useful explanations of both healthy and unhealthy learned behaviors, which are also based on well-established medical facts about relevant normal brain functions.

3. Human cognitive, emotional and physical behaviors interact in this hierarchical way. Coincident with the onset of correct spoken and unspoken human language, the cognitive behaviors (i.e. the brain's mental activities) instantly take executive type, control over human emotional and physical behaviors.

4. To be generally useful, a learning theory of human behavior must explain both healthy and unhealthy learned behaviors in terms of empirical, cause/ effect relationships, with the cognitive activities having ultimate control of the emotional and physical behaviors.

5. Unless they are medically or psychiatrically indicated, drugs are to be excluded from the treatments of learned behavioral problems.

6. The maneuvers in behavior therapy must reflect the above-mentioned hierarchical relationships between groups of behaviors.

7. The theory must make possible accurate predictions of treatment outcomes in terms of temporary or permanent replacements of unhealthy cognitive, emotive, and physical habits with personally acceptable, healthy ones.

Space limitations in this article permit only the discussion of pioneers in the behavior therapy field whose conceptual and technical contributions reflect at least five of these seven criteria.

A. Joseph Wolpe and Systematic Desensitization

In the early 1950s, this South African psychiatrist became dissatisfied with the poor therapeutic results he was getting from treating his patients with psychoanalysis. But, at that time there was no credible alternative psychotherapy in South Africa. So, as a psychotherapeutic rebellion, Wolpe combined his medical training with his understanding of behavioral learning theory and made these two important achievements: (1) He created a medically credible, non-Freudian hypothesis of the origin of neurotic fears. (2) He formulated behavioral maneuvers for treating those neurotic fears. Wolpe's behavioral treatment maneuvers were a major contribution to the beginning of behavior therapy as a recognized field of human behavioral research and systematic, mental and emotional health improvement.

Wolpe's most popular treatment maneuver was called *systematic desensitization.* It is a combination of *deep muscular relaxation* and an effective technique of *emotive imagery.* The latter had been

formulated and tested by Arnold A. Lazarus, then a psychologist, student /colleague of Wolpe and later a behavior therapist of international acclaim. A typical treatment session is an hour in which patient/clients first self-induce a state of deep muscle relaxation, followed by the therapist verbally pacing them in imagining events on a prepared list of feared objects or events. Starting with the least fearful event, patient/ clients are to maintain their initial state of deep muscular relaxation as the therapist verbally paces them up the list to the target fear. If, however, the patient/ client becomes noticeably anxious during the session, he or she is to terminate that imagery and focus on reestablishing their former relaxed state before resuming those images.

Wolpe quickly surprised the psychiatric field with his demonstrations of the rapid effectiveness of his behavioral treatment maneuvers. He also reported the largest number of human cases that had ever been successfully treated by one therapist. Prior to Wolpe's report behaviorists had annually reported less that three such successfully treated cases.

B. Albert Ellis and Rational Emotive Therapy

Like Wolpe (but without knowledge of his work), in the mid 1950s an internationally renowned American psychologist named Albert Ellis became discouraged because of his poor therapeutic results using psychoanalysis. Again like Wolpe, as a psychotherapeutic rebellion, Ellis developed a highly effective, authoritatively directive method of psychotherapy called Rational Emotive Therapy. The main stimulus for Ellis' new treatment method was the Greek stoic, emotional canon: "People do not get upset by things, but by the view they take of them."

Ellis saw the great psychotherapeutic relevance to that philosophical observation. So, he converted it into his internationally acclaimed, empirical, ABC *model of human emotions.* That model of human emotions has proven to be one of the most clinically useful psychotherapeutic concepts in the twentieth century. In addition, Ellis' ABC model probably made Rational Emotive Therapy the first comprehensive behavior therapy.

In the ABC model of human emotions: A is the activating event, that is, any event to which the person reacts. B is that person's personal belief about that perception. C is that person's emotional response to that A, the activating event. Ellis's ABC model reveals that people's emotional feelings are not caused by the activating events at A. Their emotional feelings are directly caused by their personal beliefs at B about their A-activating events. Ellis reasoned, therefore, that the drug-free, therapeutic way to help people most quickly behave better physically, or to most quickly feel better emotionally at C, is to get them to adopt "better personal beliefs" at B about their A perceptions.

To Ellis, "better personal beliefs" meant beliefs that seem to be the most logical ones for the person's desired new emotional and physical self-management. Ellis called such beliefs rational, and the contrary ones irrational, beliefs. Logically, therefore, Ellis' technique has always focused on getting people to recognize and eliminate their irrational belief systems. That fact probably made Ellis' technique the first cognitive therapy. In fact, Ellis is now recognized by many mental health professionals as the "father" of the cognitive therapeutic movement in behavioral psychology.

Initially, Ellis gave patients /clients and trainees little or no specific empirical guidelines for recognizing and discovering for themselves if their beliefs were rational. Still, the following two features made his method more rapidly and comprehensively effective than the other then-popular psychotherapies seemed to be. (1) Ellis' method encouraged therapists to be active, objective and firmly directive. (2) It also encouraged the effective use in talk therapy of Pavlovian-type verbal conditioning of more rational beliefs than those that seemed to have caused the patients /clients' problems. That feature enabled therapists to rapidly help patients/clients create the new emotional ABCs that produce and maintain the self-management they desired.

The inclusion of Pavlovian type conditioning in Ellis' method was sufficient for Eysenck to classify

Ellis' Rational Emotive Therapy as a behavior therapy. In the 1994 revision of his original 1962 "bible" of Rational Emotive Therapy, entitled *Reason and Emotions In Psychotherapy,* Ellis changed the name of his historic therapeutic technique to Rational Emotive Behavior Therapy.

Of course there is much more to Ellis' therapeutic technique than his ABC model of human emotions. But space limitations do not permit their coverage here. However, those unmentioned features all are logically based on or related to his ABC model of human emotions.

Remarkably similar to Ellis' cognitive orientation is Aaron Beck's cognitive therapy. Beck's technique has been proved to be as effective for treating some depressive disorders as is medication. Beck's method has also proved to be more effective than medication for preventing recurrences of those depressive disorders; it therefore prevents the unhealthy medical side effects of long-term drug treatment. [*See* COGNITIVE THERAPY; DEPRESSION.]

C. Maxie C. Maultsby, Jr., and Rational Behavior Therapy (RBT)

While still a psychiatric resident, Maxie C. Maultsby, Jr., studied briefly with Joseph Wolpe in 1967 and with Ellis for the following 7 years. At the 1975 Chicago National Conference of Rational Emotive and Behavior Therapists, Maultsby described his unique method of psychotherapy called Rational Behavior Therapy, or RBT. Then RBT was (and probably still is) the only method of psychotherapy that is based on the well-established facts about the mental activities of normal human brains that make learning and behavioral self-management possible. That fact was first noted in print by Arnold M. Ludwig, M.D., in the forward of the book *Rational Behavior Therapy.*

Rational Behavior Therapy is based on the psychosomatic learning theory of normal human behavior. Therefore, it takes the most comprehensive behavioral stance: namely that cognitive, emotional and physical actions that have not been genetically determined are learned. Consequently, all three of those learned behavioral groups are the most logical, simultaneous focus of psychotherapy. This psychosomatic, human learning theory is one of the few that is based on the fact that normal human brains are genetically programmed to instantly and automatically give people the most healthy and desirable, or the most unhealthy and undesirable emotional and physical behaviors that are most logical for their beliefs and attitudes. The theory is both culture free and as universally applicable to the various learned human behavioral problems as the germ theory is to the various infections. Finally, this theory fulfills all seven sets of the essential empirical criteria (listed earlier) for being an ideal unifying theory of modern behavior therapy.

1. The Main Unique Therapeutic

Constructs and Techniques in Rational Behavior Therapy

First are Maultsby's two theoretical models of habitual emotions: the AbC construct for attitude-triggered, habitual emotions, and the aBC construct for belief triggered habitual emotions. At the neurobioelectrical level, both constructs are logical extensions of Ellis' ABC model of new or not-yet-habitual human emotions. Their two main clinical values are that the aBC belief construct reveals to patients /clients how they have unwittingly taught themselves much of their emotional problems; they will have done it via vicarious, mental practice. But most important, the aBC construct shows them why and how they can use rational beliefs and the same mental process and rapidly achieve the therapeutic success they desire. The AbC attitude construct readily reveals these two instantly helpful clinical facts: (1) How and why people's own attitudes make them instantly and automatically react in their habitual emotional and physical ways, even without initial conscious thoughts of doing it, and (2) Why it is unhealthy, incorrect, and often emotionally self-abusive to accuse "It" (some external event) or some other person of making oneself (or anyone else) have the

emotional feelings one habitually has. With their silent (i.e., unspoken) AbC attitudes, people do that to themselves.

2. The Five Rules for Ideally Healthy and, Therefore, Rational Thinking

1 . Rational thinking is based on obvious facts.

2. Rational thinking best helps people protect their lives and health.

3. Rational thinking best helps people achieve their own short-term and long-term goals.

4. Rational thinking best helps people avoid their most unwanted conflicts with other people.

5. Rational thinking best helps people feel emotionally the way they want to feel without using alcohol or other drugs.

For thinking (and therefore any learned behavior) to be rational, it only has to obey at least three of these five rules at the same time. Habitually thinking rationally gives people the best probabilities for being as healthy, successful, and happy as they desire to be. There are almost no life situations that cannot be handled better with ideally healthy and, therefore, rational thinking.

3. Written, Rational Self-Analysis (RSA)

This technique facilitates developing skills in instantly and automatically doing two things: (1) Deciding for oneself when it will probably be healthiest and most personally beneficial to instantly respond with positive, negative, or neutral emotional and/or physical behavioral reactions, and (2) when the opposite responses will be healthiest and most personally beneficial.

4. Rational Emotive Imagery (REI)

This technique enables patients /clients to practice at will their desired new emotional and physical behavioral responses. Thereby they decide how rapidly and successfully they achieve their therapeutic goals.

5. The Five Stages of Therapeutic Emotional and Behavioral Reeducation

Psychotherapy means word therapy, without drugs or other medical treatments. Of course, if patients /clients need medication for some existing medical or psychiatric problem, RBT therapists see that they get it. But without medication or electric shock therapy, all therapeutic change is really therapeutic emotional and behavioral reeducation. It occurs in the following five sequential stages, regardless of the type of psychotherapy being used.

First is intellectual insight, or learning what has to be practiced to achieve therapeutic success. Second is the mental and physical practice of the new therapeutic ideas that are essential for learning the desired new emotional and physical habits. Third is cognitive-emotive dissonance (see the glossary). Fourth is emotional insight; patients /clients have it when they begin to have their desired new emotional and physically responses instantly and automatically in their desired situations. Fifth is new personality trait formation. In this case, patients/clients have their desired new emotional and behavioral reactions as instantly and automatically in their desired situations as they formerly had their undesirable emotional and behavioral reactions.

There is much more to RBT than the listed therapeutic models and techniques. For more in-depth knowledge, please refer to the bibliography.

IV. BEHAVIORAL ASSESSMENT AND THE THERAPEUTIC PROCESS

FROM THE DESK OF
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2-17-99

Donna these two books are free, as they have storage humidity damage. But only to the covers. The contents are perfectly readable. You may want to show one copy to your college librarian or your Professor with the request that the College obtain two or three copies.

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SELF ACCEPTANCE SCRIPT

RBT

Rational Behavior Therapy Center

I am a person with human dignity. What I do does not change me. Sometimes I make mistakes, and sometimes I do things very well, but I'm the same person no matter what I do.

I will continue to make some mistakes throughout my life because I'm not perfect: I am a fallible human being. However, because I'm a person, I also have the ability to learn. I can work on mistakes and learn to do what is necessary to change them. I can strive to "do" better; I cannot "be" better. I already am a human being.

Past is in the past. I cannot change that. I regret some things I've done. I don't like some things that have happened but I can't change the past by staying upset and worried. I can't guarantee the future by being worried either. I can change my feelings right now. I'm probably going to handle situations better if I'm calmer and more clearheaded. I am remembering that I am in control of my feelings. I control myself. I can't always control the situation. May times things happen that I don't like. I will accept this by remembering that I cannot control everything. If I don't like it, I can do my best to do something about it, if I want to. If I don't want to, I can calmly remember that I have a choice.

Other people control their decisions about their behavior. I am not responsible for what other people think, feel or do. I want to do my best to help others but their behavior is in their control. They decide what they do.

I do what I do because I can only act in light of my own experience, my own learning, and my own attitudes. Sometimes I make mistakes; this doesn't mean I'm bad or wrong. Mistakes mean I don't know everything. No one knows everything. I am a human being who has the ability to learn from my mistakes.

What people think, or do, cannot make me less of a person. I am me and no one can change me. I will continue to do things I do and make the mistakes I make until I change. I want to begin to change right now. I am accepting myself by remembering I am a fallible human being, just as good, just as worthwhile as other people.

Sometimes people do what I'm not expecting them to do. Sometimes it seems as if they don't care. This is my interpretation of their behavior and I could be mistaken. However, even if it were true that some people are inconsiderate of me, and don't really care about how I feel, I still do not have to get so upset about it.

Other people have a right to do what they do, and to think what they think. They do not have to care about me in order for me to be calm or even happy. Other people's thoughts do not control or define my feelings; other people's actions do not control or define my feelings.

(OVER)

I am a person with human dignity no matter what other people think of me. Even if they don't think of me the way I would like, I can stand it. I don't need the approval or caring of others in order to feel good about myself. I am the most important person in my life because I control my life.

I control my thoughts, feelings and behavior. I feel good about the things I do well and regret some things I don't do well. I accept all those behaviors and accept myself.

I feel calm about myself; I feel acceptable to myself; I feel good about accepting myself.