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American Psychologist and Social Philosopher (1904–1990) B. F. Skinner

Skinner at harvard's Department of Psychology, c. 1950

Born Burrhus Frederic Skinner (1904-03-20) March 20, 1904 Susquehanna, Pennsylvania, U.S. Died 18 August 1990 (1990-08-18) (age 86) Cambridge, Massachusetts, U.S. Nationality American

Alma mater Hamilton College Harvard University Known for Operant conditioning Radical behaviorism Behavior Behavior Science(s) Yvonne (Eve) Blue (m) Blue (m) 1936; his death in 1990 [1] Science Series Medal (1968) Scientific career Campo(s) Psychology, linguistics , philosophy University Institutes of Minnesota Indiana University Harvard University Influences Charles Darwin Ivan Pavlov Ernst Mach Jacques Loeb Edward Thorndike William James Jean-Jacques Rousseau Henry David Thoreau Influenced Maxie Clarence Maultsby Jr. Signature Burrhus Frederic Skinner (March 20, 1904 – August 18, 1990) was a psychologist, behavioral behavioural, American author, inventor and social philosopher. [3] He was professor of psychology at Harvard University from 1958 until his retirement in 1974. [6] Considering the free will to be an illusion, Skinner saw human action as dependent on the consequences of previous actions, a theory that would articulate as the principle of reinforcement: If the consequences of an action are bad, there is a high probability that the action will not repeat itself; if the consequences are good, the probability of the action being repeated becomes stronger. Skinner developed behavioral analysis, particularly the philosophy of radical behaviorism,[7] and founded experimental behavioral analysis, a school of experimental research psychology. He also used operant conditioning to strengthen behavior, considering the response rate as the most effective measure of the response force. To study operant conditioning, he invented the aka Skinner Box,[7] and invented the cumulative recorder to measure the rate. Using these tools, he and Charles Ferster produced Skinner's most influential experimental work, outlined in their book Schedules of Reinforcement (1957). [9] Skinner was a prolific author, having published 21 books and 180 articles. [11] He imagined the application of his ideas to the design of a human community in his utopian novel, Walden Two (1948).[12] while his analysis of human behavior culminated in his work, Verbal Behavior. The contemporary academic world considers Skinner, along with John B. Watson and Ivan Pavlov, a pioneer of modern behavior. As a result, a June 2002 survey listed Skinner as the most influential psychologist of the 20th century. [14] Biography Skinner was born in Susquehanna, Pennsylvania, to Grace and William Skinner, the latter of whom was a lawyer. Skinner became an atheist after a christian tried to appease his fear of hell described by his grandmother. His brother Edward, Edward, and a half younger, he died at the age of 16 from a cerebral hemorrhage. Skinner's closest friend as a boy was Raphael Miller, who called Doc because his father was a doctor. Doc and Skinner became friends because of their parents' religiosity and both had an interest in gadgets and gizmos. They had created a telegraph line between their homes to send messages to each other, although they had to call each other on the phone due to confusing messages sent back and forth. During one summer, Doc and Skinner started an elderberry business to pick berries and sell them door-to-door. They had found that when they collected the ripe berries, even the unripe ones came out of the branches, so they built a device that was able to separate them. The device was a piece of metal bent to form a trough. They poured water into the depression into a bucket, and ripe berries sank into the bucket, and unripe berries would be pushed over the edge to be thrown away. [17] Education Skinner attended Hamilton College in New York city with the intention of becoming a writer. He found himself at a social disadvantage at the College because of his intellectual attitude. The school was known to be a strong fraternity, and Skinner joined the Lambda Chi Alpha fraternity while attending. Skinner had thought that his fraternity brothers would be respectful and would not torment or mistreat newcomers, instead helping other boys with courses or other activities. Contrary to his expectations, lambda chi alpha freshmen were called slimers who had to wear small hats in green jersey and greet everyone who passed by as punishment. The year before Skinner entered Hamilton, there was an accident that resulted in the death of a student. The freshman was asleep in his bed when he was pushed to the floor, where he smashed his head, resulting in death. Skinner had a similar incident in which two freshmen caught him and tied him to a pole, where he was supposed to stay all night, but he had a razor blade in his shoe for the emergency and managed to break free. He wrote for the school newspaper, but, as an atheist, was critical of his college's traditional methods. After earning a Bachelor of Arts degree in English literature in 1926, he attended Harvard University, where he later studied, taught and eventually became a prestigious board member. While attending Harvard, another student, Fred Keller, convinced Skinner that he could do experimental science from the study of behavior. This led Skinner to invent a prototype for the Skinner Box and join Keller in creating other instruments for small experiments. After graduation, Skinner tried without to write a great novel while living with his parents, a period he later called 'Dark Years'. [18] He was disillusioned with his literary skills encouragement of the famous poet Robert Frost, concluding that he had little world experience and no strong personal perspective from which to write. His encounter with The Behavior of John B. Watson led him to study psychology and the development of his own version of behavior. Later the tombstone of B.F. Skinner and his wife Eve at Mount Auburn Cemetery Skinner received a Ph.D. from Harvard in 1931, and remained there as a researcher until 1936. He then taught at the University of Minnesota in Minneapolis and later at the University of Indiana, where he was president of the psychology department from 1946 to 1947, before returning to Harvard as a professor of role in 1948. He remained at Harvard for the rest of his life. In 1973, Skinner was one of the signatories of the Humanist Manifesto II. In 1936, Skinner married Yvonne (Eve) Blue. The couple had two daughters, Julie (M. Vargas) and Deborah (M. Buzan). [20] Yvonne died in 1997 and was buried in Mount Auburn Cemetery, Cambridge, Massachusetts. Skinner's public exposure had increased in the 1970s, and remained active even after his retirement in 1974, until his death. In 1989, Skinner was diagnosed with leukemia and died on August 18, 1990 in Cambridge, Massachusetts. Ten days before his death, he was awarded the lifetime achievement award by the American Psychological Association and gave a speech in an auditorium about his work. [24] Contributions to Psychology Behavior: Radical Behavior and Behavior Skinner referred to his approach to the study of behavior as radical behaviorism. This philosophy of behavioral science assumes that behavior is a consequence of environmental reinforcement stories (see this analysis of applied behavior). In his words: The position can be expressed as follows: what is felt or observed introspectively is not a non-physical world of consciousness, mind or mental life, but the body of the observer. This does not mean, as I will show later, that introspection is a kind of psychological research, nor does it mean (and this is the heart of the subject) that what is felt or introspectively observed are the causes of behavior. An organism behaves as it does because of its current structure, but most of this is out of the reach of introspection. At the moment we have to settle, as the methodological behaviorist insists, with a person's genetic and environmental histories. What are introspectively observed are some side products of those stories.... In this way we are induced by the serious damage caused by mentalism. When what a person does is attributed to what's going on inside him, the investigation is done. Why explain the explanation? For twenty-five hundred years people have been concerned about and mental life, but only recently has a more precise interest been shown role of the environment. Ignorance of this role led primarily to mental fiction, and was perpetuated by the explanatory practices that gave rise to it. The basis of Skinner's behavior Skinner's ideas about behavior were largely laid out in his first book, Behavior of Organisms (1938). [9] Here, it provides a systematic description of how environmental variables control behavior. He distinguished two types of behavior that are controlled in different ways: the behaviors of respondents are aroused by stimuli and can be modified through responding conditioning, often called classical (or Pavlovian) conditioning, in which a neutral stimulus is coupled with an aroused stimulus. Such behaviors can be measured by their latency or strength. Operating behaviors are 'emitted', which means that initially they are not induced by any particular stimulus. They are strengthened through operant conditioning (aka instrumental conditioning), in which the occurrence of a response produces reinforcement. Such behaviors can be measured by their rate. Both of these types of behaviour had already been studied experimentally, in particular: interviewed; by Ivan Pavlov; [26] and operatives, by Edward Thorndike. Skinner's account differed somewhat from previous ones [28] and was one of the first accounts to bring them under one roof. The idea that behaviour is strengthened or weakened by its consequences raises several questions. Among the most important are: [Necessary clarification] the operational responses are reinforced by reinforcement, but where do they come from in the first place? Once it is in the body's repertoire, how is an answer directed or controlled? How can very complex and seemingly new behaviors be explained? 2. Control of operant behavior Skinner's answer to the first question was very similar to Darwin's answer to the question of the origin of a new body structure, namely, variation and selection. Similarly, the behavior of an individual varies from moment to moment; a variation that is followed by reinforcement is strengthened and becomes prominent in that individual's behavioral repertoire. Shaping was Skinner's term for gradually changing behavior by reinforcing desired variations. Skinner believed that superstitious behavior can arise when an answer seems to be followed by a reinforcement to which it is actually unrelated. [clarification required] 2. Control of operant behavior The second question, how is the operating behavior controlled? arises because, to begin with, behavior is issued without reference to any particular stimulus. Skinner responded to this saying that a stimulus comes to control an operating man if he is present when the answer is strengthened and absent when it is not. For example, if the lever pressure only brings food when a light is on, a rat or a child, child, to press the lever only when the light is on. Skinner summed up this report by saying that a discriminatory stimulus (e.g. light) poses an opportunity for the reinforcement (food) of the operating (lever-press). This three-term contingency (stimulus-response-reinforcer) is one of Skinner's most important concepts, and distinguishes his theory from theories that use only pair associations. [28] 3. Explaining complex behavior Most of human behavior cannot be easily described in terms of one-by-one strengthened individual responses, and Skinner devoted a great deal of effort to the problem of behavioral complexity. Some complex behaviors can be seen as a sequence of relatively simple responses, and here Skinner invoked the idea of concatenation. The chaining is based on the experimentally proven fact that a discriminatory stimulus not only poses an opportunity for subsequent behaviour, but can also strengthen a behaviour that precedes it. That is to say, a discriminatory stimulus is also conditional reinforcement. For example, the light that sets the opportunity for lever pressing can also be used to reinforce turning around in the presence of noise. This translates into the noise sequence – turn-around – light – press lever – food. Many longer chains can be built by adding more stimuli and answers. However, Skinner recognized that a large amount of behavior, especially human behavior, cannot be accounted for by the gradual form or construction of response sequences. [29] Complex behavior often appears suddenly in its final form, such as when a person finds his way to the elevator following the instructions given to reception. To account for such behavior, Skinner introduced the concept of rule-governed behavior. First, relatively simple behaviors are under the control of verbal stimuli: the child learns to jump, open the book, and so on. After a large number of responses are under such verbal control, a sequence of verbal stimuli can evoke an almost unlimited variety of complex responses. [29] Reinforcement Main article: Reinforcement Reinforcement, a key concept of behaviorism, is the main process that shapes and controls behavior and occurs in two ways: positive and negative. In The Behavior of Organisms (1938), Skinner defines negative reinforcement as a synonym for punishment, i.e. the presentation of an aversive stimulus. This definition would later be re-defined in Human Science and Behavior (1953). In what has now become the standard set of definitions, the positive reinforcement is the strengthening of behavior from the occurrence of event (e.g. eulogy after behavior is performed), while negative reinforcement is the strengthening of behavior by removing or avoiding some adverse event (for example, opening and raising an umbrella above the head on a rainy day is reinforced by the cessation of falling rain you). Both types of reinforcement strengthen behavior or increase the likelihood of behavior repeating; the difference is in whether the reinforcement event is something applied (positive reinforcement) or something removed or avoided (negative reinforcement). Punishment can be the application of an adverse stimulus/event (positive punishment or punishment by contingent stimulation) or the removal of a desirable stimulus (negative punishment or punishment by contingent withdrawal). Although punishment is often used to suppress behavior, Skinner has argued that this suppression is temporary and has a number of other, often unwanted, consequences. Extinction is the absence of a rewarding stimulus, which weakens behavior. Writing in 1981, Skinner pointed out that Darwinian natural selection is, like enhanced behavior, selection for consequences. Although, as he said, natural selection has now made its case, he regretted that essentially the same process, reinforcement, was less widely accepted as underlying human behavior. [31] Reinforcement times Main article: Skinner reinforcement times Skinner reinforcement times recognized that behavior was typically reinforced more than once, and, along with Charles Ferster, made an in-depth analysis of the various ways reinforcements could be organized over time, calling it reinforcement times. [10] Skinner's most important reinforcement times were continuous, interval (fixed or variable) and ratio (fixed or variable). All are methods used in operant conditioning. Continuous Reinforcement (CRF): Each time a specific action is taken, the subject receives reinforcement. This method is effective when teaching new behavior because it quickly establishes an association between target behavior and reinforcement. For example, if you put your finger above the flame (action), the finger is burned (negative reinforcement). [32] Interval planning: Based on the time interval between reinforcements. [7] Fixed interval program (FI): a procedure in which reinforcements are presented at fixed time periods, provided that the appropriate response is made. This program produces a response rate that is low immediately after reinforcement and becomes rapid just before the next reinforcement is scheduled. For example, read the textbook before exams to pass exams: reading is the answer, regular exams are reinforcements. Variable range planning (VI): A procedure in which behavior is strengthened after random durations after the last reinforcement. This program produces a constant response at a rate that varies with the average reinforcement frequency. For example, learning Japanese: Japanese class → interaction with the (e.g. conversation with cashier or colleague) → next Japanese class. Reports: Based on the ratio of responses to reinforcements. [7] Fixed (FR): A procedure in which reinforcement is delivered after a specific number of replies have been made. For example, you have to drop by one vote if you failed two mandatory courses. Variable ratio program (VR):[7] A procedure in which reinforcement comes after a series of randomized responses from one reinforcement to another (e.g. slot machines). The smaller the number of responses requested, the higher the response rate tends to be. Report times tend to produce a very rapid response, often with interruptions not to respond immediately after reinforcement if a large number of reinforcement responses are needed. For example, video games: The player is updated or rewarded after reaching some actions required by the game through many attempts, the fewer actions needed to be rewarded, the faster the action tends to be, player moves very fast to perform rewarding actions, after playing the actions for hours, player usually take a break from the game before starting acting in the video game again. Token economy Skinnerian principles have been used to create token economies in a number of institutions, such as psychiatric hospitals. When participants behave desirably, their behavior is reinforced with tokens that can be modified for items such as candy, cigarettes, coffee, or the exclusive use of a TV or radio. [33] Verbal Behavior Main article: Verbal Behavior (book) Challenged by Alfred North Whitehead during a casual discussion while at Harvard to provide an account of a piece of verbal behavior provided randomly.[34] Skinner began to attempt to extend his new functional and inductive approach to the complexity of human verbal behavior. [35] Developed over two decades, his work appeared in the book Verbal Behavior. Although Noam Chomsky was very critical of verbal behavior, he admitted that Skinner's S-R psychology was worth a review. [36] (Behavior analysts reject S-R characterization: operating conditioning involves issuing a response that then becomes more or less likely depending on its consequences.) [36] Verbal Behavior received an unusually cold reception, in part due to Chomsky's review, in part due to Skinner's inability to address or refute Chomsky's criticism. Skinner's peers may have been slow to adopt the ideas presented in Verbal Behavior due to the absence of experimental evidence, unlike the empirical density that marked Skinner's experimental work. [38] Scientific inventions Operant conditioning main chamber article: Operant conditioning chamber An air conditioning chamber (also known as Skinner box) is a laboratory apparatus used in experimental analysis of animal behavior. It was invented by Skinner while he was a graduate student at Harvard University. As used by Skinner, the box had a lever (for rats), or a disc in a wall (for Pressure on this manipulandum could provide food to the animal through an opening in the wall, and reinforced responses in this way increased in frequency. Controlling this reinforcement along with discriminatory stimuli such as lights and tones, or punishments such as electric shocks, the experimenters used the operating box to study a wide range of topics, including reinforcement times, discriminatory control, delayed response (memory), punishment, and so on. By channeling research in these directions, the operating air conditioning chamber has had a huge influence on the course of research in animal learning and its applications. It has enabled great progress to be made on problems that could be studied by measuring the rate, probability or strength of a simple and repeatable answer. However, it discouraged the study of behavioral processes not easily conceptualized in such terms: spatial learning, in particular, which is now studied in very different ways, for example, from the use of the water labyrinth. [28] Cumulative recorder The cumulative recorder makes a pen and ink recording of simple repeating responses. Skinner designed it for use with the operating chamber as a convenient way to record and display the rate of responses such as a lever press or a key beak. In this device, a sheet of paper gradually unrolls on a cylinder. Each answer passes a small pen through the paper, starting from an edge; when the pen reaches the other edge, it is quickly reset to the initial side. The resulting ink line tilt graphically shows the speed of the response; for example, quick responses produce a steep line on paper, slow response produces a low slope line. The cumulative recorder was a key tool used by Skinner in his behavior analysis, and was widely adopted by other experimenters, gradually falling out of action with the advent of the laboratory computer and the use of line charts. [39] Skinner's main experimental exploration of response rates, presented in his book with Charles Ferster, Schedules of Reinforcement, is filled with cumulative recordings produced by this device. The air cradle The air cradle is an easily clean box bed, at temperature and humidity, intended to replace the standard baby nativity scene. Skinner invented the device to help his wife cope with the daily activities of child rearing. It is designed to make early care of children easier (reducing laundry, diaper rash, cradle cap, etc.), allowing the baby to be more mobile and comfortable and less prone to crying. It is reported that had some success in these goals. [41] The air crib was a controversial invention. It was popularly poorly described as a cruel pen, and has often been compared to Skinner's operant conditioning chamber (aka the 'Skinner Box'). This association with laboratory animal testing has discouraged its commercial success, although several companies have tried to Psychologist Lauren Slater's 2004 book, Opening Skinner's Box, [43] caused a stir by mentioning rumors that Skinner had used her little girl, Deborah, in some of her experiments, and that she later committed suicide. Although Slater's book dismissed such rumors as false, a reviewer for The Observer in March 2004 incorrectly rejected Slater's book as a support for the rumors. This review was read by Deborah Skinner (now Deborah Buzan), who wrote a vehement response in The Guardian. [44] Teaching machine The teaching machine, a mechanical invention to automate the programmed learning task The teaching machine was a mechanical device whose purpose was to administer a programmed learning curriculum. The machine embodies the key elements of Skinner's learning theory and has had important implications for education in general and in the classroom in particular. In one incarnation, the machine was a box that housed a list of questions that could be seen one at a time through a small window. (see image). There was also a mechanism by which the student could answer every question. After delivering a correct answer, the student would be rewarded. Skinner advocated the use of teaching machines for a wide range of students (e.g. preschool to adults) and educational purposes (e.g., reading and music). For example, a machine he imagined could teach rhythm. He wrote: [47] A relatively simple device provides the necessary contingencies. The student touches a rhythmic model in unison with the device. Unison is specified very freely at first (the student can be a little early or late at each tap), but the specs are slowly sharpened. The process is repeated for various speeds and models. In another arrangement, the student echoes the rhythmic models played by the machine, although not in unison, and once again the specifications for accurate reproduction are progressively sharpened. Rhythmic models can also be brought under the control of a printed score. The didactic potential of the teaching machine stemmed from several factors: it provided automatic, immediate and regular reinforcement without the use of effective control; the material presented was consistent, but varied and novel; the pace of learning could be adjusted to suit the individual. As a result, students were interested, attentive and learned efficiently by producing the desired behavior, learning by doing. [48] Educational machines, though perhaps rudimentary, were not rigid tools of education. They could be adapted and improved based on student performance. To if a student has made many incorrect answers, the machine could be reprogrammed to provide less advanced requests or questions, the idea is that students acquire behaviors more efficiently if they make few mistakes. Multiple-choice formats were not suitable for machines because they tended to increase student errors, and reinforcement contingencies were relatively uncontrolled. Not only useful in teaching explicit skills, machines could also promote the development of a repertoire of behaviors that Skinner called self-management. Effective self-management means witnessing appropriate stimuli to a task, avoiding distractions, reducing the opportunity for reward for competing behaviors, and so on. For example, machines encourage students to pay attention before receiving a reward. Skinner contrasted this with the common practice in the classroom of initially capturing students' attention (for example, with a lively video) and providing a reward (for example, entertainment) before students actually performed any relevant behavior. This practice fails to strengthen the correct behavior and actually counteracts the development of self-management. Skinner pioneered the use of classroom teaching machines, especially at the primary level. Today, computers run software that performs similar educational tasks, and there has been a resurgence of interest in the topic of developing adaptive learning systems. [49] Pigeon-guided missile Main article: Pigeon Project during World War II, the U.S. Navy required an effective weapon against surface ships, such as German Bismarck-class battleships. Although missile and television technology existed, the size of the primitive guidance systems available made automatic driving impractical. To solve this problem, Skinner started Project Pigeon.[50][51] which was intended to provide a simple and effective driving system. This system divided the nose cone of a missile into three compartments, with one pigeon placed in each. The lenses project an image of distant objects onto a screen in front of each bird. Thus, when the missile was launched from an aircraft in view of an enemy ship, an image of the ship would appear on the screen. The screen was hinged, so that it caught the image of the ship would drive the missile towards the ship. Despite an effective demonstration, the design was abandoned, and more conventional solutions, such as radar-based solutions, were eventually available. Skinner complained that our problem was that no one would take us seriously. [53] The verbal summarizer early in his career Skinner became interested in latent discourse and experimented with a device he called the verbal summary. This device can be considered as an auditory version of Rorschach inkblots. [54] When using the device, human participants listened audible garbage, but often read the meaning of what they felt. Thus, as with Rorschach stains, the device was intended to produce obvious behavior that projected subconscious thoughts. Skinner's interest in projective testing was brief, but he later used the observations with the summary in the creation of his theory theory, verbal behaviour. The device also led other researchers to invent new tests such as the tautophone test, auditory perception test, and the Azzagaddi test[when defined as?]. [55] The influence on teaching This article needs additional citations for verification. Please help improve this article by adding quotes to reliable sources. Non-sourced material can be disputed and removed. Find sources: B. F. Skinner – newspaper news. JSTOR scholar books (December 2007) (Learning how and when to remove this model message) Along with psychology, education has also been influenced by Skinner's opinions, which are widely presented in his book The Technology of Teaching, as reflected in Fred S. Keller's custom education system and Ogden R. Lindsley's precision teaching. Skinner argued that education has two main purposes: to teach both verbal and non-verbal code of conduct; and to interest students in learning. He recommended bringing student behavior under appropriate control by providing reinforcement only in the presence of stimuli relevant to the learning task. Because he believed that human behavior can be influenced by small consequences, something as simple as the opportunity to move forward after completing a phase of an activity can be an effective reinforcement. Skinner was convinced that, in order to learn, a student must engage in behavior, and not just passively receive information. [45]:389 Skinner believed that effective teaching should be based on positive reinforcement which he said is more effective at changing and establishing behavior than punishment. He suggested that the main thing people learn from being punished is how to avoid punishment. For example, if a child is forced to play an instrument, the child comes to associate the practice with punishment and then learns to hate and avoid practicing the instrument. This point of view had obvious implications for the then widespread practice of learning and punitive discipline in education. The use of educational activities as punishment can induce rebellious behavior such as vandalism or absence. [56] Since teachers are primarily responsible for changing student behavior, Skinner argued that teachers need to learn effective ways of teaching. In The Technology of Teaching (1968), Skinner has a chapter on why teachers fail:[57]:93–113 He says teachers have not been given an in-depth understanding of teaching and learning. Without knowing the science behind teaching, teachers go back to procedures that work poorly or to such as: the use of adverse techniques (which produce escape and avoidance and unwanted emotional effects); based on telling and explaining (Unfortunately, a student does not simply learn when it is shown or said.); [57]:103 failing to adapt learning activities to the current level of the student; and failing by failing provide positive reinforcement quite frequently. Skinner suggests that any age-appropriate ability can be taught. The steps are clearly specify the action or performance that the student must learn. Divide the task into small

steps that can be achieved, moving from simple to complex. Let the student perform each step, strengthening the correct actions. Adjust so that the student is always successful until the goal is finally achieved. Switch to intermittent reinforcement to maintain student performance. Contributions to social theory Skinner is popularly known primarily for his books *Walden Two* (1948) and *Beyond Freedom and Dignity*, (for which he made the cover of *TIME Magazine*). The first describes an imaginary experimental community in the United States. The productivity and happiness of citizens in this community is much greater than in the outside world because residents practice scientific social planning and use operatic conditioning in raised their children. *Walden Two*, like Thoreau's *Walden*, supports a lifestyle that does not support war, nor promotes competition and social struggles. It encourages a minimal lifestyle, rich social relationships, personal happiness, satisfying work, and free time. In 1967, Kat Kinkade and others founded the *Twin Oaks Community*, using *Walden Two* as a project. The community still exists and continues to use the *Planner-Manager system* and other aspects of the community described in Skinner's book, although behavior modification is not a community practice. In *Beyond Freedom and Dignity*, Skinner suggests that behavior technology could help make a better society. However, we should accept that an autonomous agent is not the driving force behind our actions. Skinner offers alternatives to punishment and challenges its readers to use modern science and technology to build a better society. Skinner's political views underscored his hopes that an effective and humane science of behavioral control – a technology of human behavior – could help with unresolved problems often aggravated by advances in technology such as the atomic bomb. In fact, one of Skinner's goals was to prevent humanity from destroying itself. [62] He saw political activity as the use of adverse or non-adverse means to control a population. Skinner favored the use of positive reinforcement as a means of control, citing Jean-Jacques Rousseau 's novel *Emile*: o, *On Education* as an example of literature that did not fear the power of positive reinforcement. [3] Skinner's book, *Walden Two*, presents a vision of a decentralized and localized society, which applies a practical approach, and behavioral competence to peacefully address social problems. (For example, his views led him to oppose corporal punishment in schools, and he wrote a letter to the California Senate that helped lead to a spanking ban. [63] Skinner's utopia is both a thought experiment and a rhetorical piece. In *Walden Two*, Skinner answers the problem that exists in many utopian novels – What is good life? The book's answer is a life of friendship, health, art, a healthy work-time balance, a modicum of unpleasantness, and the feeling that a useful contribution has been made to a society where resources are guaranteed, in part, by minimizing consumption. If the world is to save any part of its resources for the future, it must reduce not only consumption, but also the number of consumers. When Milton's Satan falls from heaven, he ends up in hell. And what do you say to reassure yourself? 'Here, at least, we'll be free.' And that, I think, is the fate of the old liberal. He'll be free, but he'll be in hell. Superstition experiment in the pigeon One of Skinner's experiments examined the formation of superstition in one of his favorite experimental animals, the pigeon. Skinner put a series of hungry pigeons in a cage attached to an automatic mechanism that delivered food to the pigeon at regular intervals without any reference to the bird's behavior. [65] He discovered that pigeons associated food delivery with any random action they had performed as it was delivered, and that they later continued to perform these same actions. [65] A bird was conditioned to turn counterclockwise on the cage, making two or three turns between reinforcements. Another repeatedly pushed his head into one of the upper corners of the cage. A third developed a dissing response, as if putting his head under an invisible bar and lifting it repeatedly. Two birds developed a pendulum movement of the head and body, in which the head was extended forward and swung from right to left with a sharp movement followed by a somewhat slower return. Skinner suggested that pigeons behave as if they influenced the automatic mechanism with their rituals, and that this experiment shed light on human behavior:[65] It could be said that the experiment demonstrates a kind of superstition. The bird behaves as if there is a causal relationship between its behavior and the presentation of food, although such a relationship is deficient. There are many similarities in human behavior. Card-changing rituals are good examples. Some accidental connections between a ritual and favorable consequences are enough to set up and maintain behavior despite many unreinforced instances. The pitcher who released a ball down the alley, but continues to act as if he's controlling it and turning your arm and shoulder is another case in particular. These behaviors, of course, have no real effect on one's luck or on a ball halfway down an alley, just as in the present case food would often appear if the pigeon did nothing, or, more strictly, did something else. Modern behavioral psychologists challenged Skinner's superstition explanation for the behaviors he recorded. Later research (e.g. Staddon and Simmelhag, 1971), while finding similar behavior, could not find support for Skinner's explanation of adventurous reinforcement. Looking at the timing of different behaviors within the interval, Staddon and Simmelhag were able to distinguish two classes of behavior: the terminal response, which occurred in anticipation of food, and the provisional responses, which occurred earlier in the interfood interval and were rarely contiguous with food. The terminal responses seem to reflect classical conditioning (as opposed to the operant), rather than an adventurous reinforcement, driven by a process such as that observed in 1968 by Brown and Jenkins in their selfshaping procedures. Even the causality of intermediate activities (such as programme-induced polydipsia seen in a similar situation with rats) cannot be traced back to adventurous reinforcement and its details are still obscure (Staddon, 1977). [66] Critic Noam Chomsky Noam Chomsky, a prominent skinner critic, published a review of Skinner's *Verbal Behavior* two years after its publication. [67] Chomsky argued that Skinner's attempt to use behavior to explain human language amounted to little more than puns. Conditional responses could not take into account a child's ability to create or understand an infinite variety of new sentences. Chomsky's review was credited with launching the cognitive revolution in psychology and other disciplines. Skinner, who rarely responded directly to critics, never formally responded to Chomsky's criticism. Many years later, Kenneth MacCorquodale's response was approved by Skinner. Chomsky also reviewed Skinner's *Beyond Freedom and Dignity*, using the same basic reasons as his verbal behavior review. Among Chomsky's criticisms was that Skinner's laboratory work could not be extended to humans, that when extended to humans he represented a scientific behavior that attempted to emulate science but was not scientific, that Skinner was not a scientist because he rejected the hypothetical-deductive model of the theory test, and that Skinner had no science of behavior. [69] Skinner psychodynamic psychology has been repeatedly for his alleged animosity towards Sigmund Freud, psychoanalysis and psychodynamic psychology. Some have argued, however, that Skinner shared many of Freud's hypotheses, and that he was influenced by Freudian views in more than one field, including defense analysis like repression. [70] To study these phenomena, Skinner also designed his projective test, the verbal summarizer described above. [72] J. E. R. Staddon As understood by Skinner, attributing dignity to individuals involves giving them credit for their actions. Saying Skinner is brilliant means skinner is a force of origin. If Skinner's determinist theory is right, it's only at the center of his environment. He is not a force of origin and had no choice in saying the things he said or doing the things he did. Skinner's environment and genetics allowed him to write his book. In the same way, the environment and the genetic potential of the advocates of freedom and dignity indicate them to resist the reality that their activities are determined. J. E. R. Staddon supported the compatible position; [73] Skinner's determinism is in no way contradictory to traditional notions of reward and punishment, as he believed. [74] [75] Professional Career Roles 1936-1937 Instructor, University of Minnesota 1937-1939 Assistant Professor, University of Minnesota 1939-1945 Associate Professor, University of Minnesota 1945-1948 Professor and President, Indiana University 1947-1948 William James Lecturer, Harvard University Professor 1948-1958, Harvard University 1949-1950 President, Midwestern Psychological Association 1954-1955 President, Eastern Psychological Association 1966-1967 President, Pavlovian Society of North America 1974-1990 Professor of Psychology and Social Relations Emeritus , Harvard University Awards 1926 AB, Hamilton College 1930 MA, Harvard University 1930-1931 Thayer Fellowship 1931 PhD, Harvard University 1931-1932 Walker Fellowship 1931-1933 National Research Council Fellowship 1933-1936 Junior Fellowship, Fellowship Harvard Society of Fellows 1942 Guggenheim Fellowship (postponed to 1944-1945) 1942 Howard Crosby Warren Medal, Society of Experimental Psychologists 1958 Distinguished Scientific Contribution Award, American Psychological Association 1958-1974 Edgar Pierce Professor of Psychology , Harvard University 1964-1974 Lifetime Achievement Award, National Institute of Mental Health 1966 Edward Lee Thorndike Award, American Psychological Association 1968 National Medal of Science, National Science Foundation 1969 Overseas Fellow in Churchill College, Cambridge 1971 Gold Medal Award, American Psychological Foundation 1971 Joseph P. Kennedy, Jr., Foundation for Mental Retardation International award 1972 Humanist of the Year, American Humanist Association 1972 Creative Leadership in Education Award , Career Award of New York University 1972, Massachusetts Psychological Association 1978 Distinguished Contributions to Educational Research Award and Development, American Educational Research Association 1978 National Association for Citizens Award 1985 Award for In Psychiatry, Albert Einstein School of Medicine 1985 President's Award, New York Academy of Science 1990 William James Fellow Award, American Psychological Society 1990 Lifetime Achievement Award, American Psychology Association 1991 Outstanding Member and Distinguished Professional Achievement Award, Society for Performance Improvement 1997 Scholar Hall of Fame Award, Academy of Resource and Development 2011 Committee for Skeptical Inquiry Pantheon of Skeptics -Inducted[76] Honorary degrees Skinner received honorary degrees : Alfred University Ball State University Dickinson College Hamilton College Harvard University Hobart e William Smith Colleges Johns Hopkins University Keio University Long Island University C. W. Post Campus McGill University North Carolina State University Ohio Wesleyan University Ripon College Rockford College Rockford College Tufts University of Chicago University of Exeter University of Missouri University of North Texas Western Michigan University of Maryland , Conteia di Baltimore. Bibliografia 1938. Il comportamento degli organismi: un'analisi sperimentale, 1938. ISBN 1-58390-007-1, ISBN 0-87411-487-X. Walden Due. ISBN 0-87220-779-X (rivisto 1976 ndr). 1953. Scienza e comportamento umano. ISBN 0-02-929040-6. [I] 1957. Orari di rinforzo, con C. B. Ferster. ISBN 0-13-792309-0. 1957. Comportamento verbale. ISBN 1-58390-021-7. 1961. L'analisi del comportamento: un programma per l'auto-istruzione, con James G. Holland. ISBN 0-07-029565-4. 1968.La tecnologia dell'insegnamento. New York: Appleton-Century-Crofts. LCCN 68–12340 ISBN 0-13-902163-9. 1969. Contingenze di rinforzo: un'analisi teorica. ISBN 0-390-81280-3. 1971. Al di là della libertà e della dignità. 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Skinner at LibriVox (public domain audiobooks) I wasn't a lab rat, Skinner's daughter's response to the Baby Box Audio Recordings Society for Experimental Analysis of Behavior Youtube Video Skinner and Teaching Machine Superstition in the Pigeon by B.F. Skinner (Full Text) Reprint of the Minotaur of the Behaviorist Maze: Surviving Stanford's Learning House in the 1970s: Journal of Humanistic Psychology, Vol. 51, Number 3, July 2011. 266–272. Retrieved from

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